Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 23-30, Article ID Med-46
ISSN: 2320 – 0251

Review Article | Open Access

Al-Hijamah (Cupping): The Natural Holistic Healing Art- A Review

Md. Nafis Iqbal[1] and Prof. Anis A. Ansari[2]

[1, 2] Department of Kulliyat, Ajmal Khan Tibbiya College, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

Correspondence should be addressed to Md. Nafis Iqbal, PG Scholar, Department of Kulliyat, Ajmal Khan Tibbiya College, AMU, Aligarh, Uttar Pradesh, India, nafisnium22@gmail.com

Publication Date: 23 February 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-46

Abstract In Unani system of medicine, various types of treatments are employed such as Regimenal therapy, Dietotherapy and Pharmacotherapy etc. Among them, the regimental therapy has very remarkable status; therefore, it is being adopted globally. *Al- Hijamah* (cupping) is one such *tadabeer* (regimen), which causes intervention through restoration of humoural balance by diverting or evacuating the morbid materials and it is practiced for many disease conditions since time immemorial. Hippocrates describes both dry and wet cupping in his *Guide to Clinical Treatment*. He recommended it for the treatment of angina, menstrual and other disorders. Later, Galen was a practitioner of the procedure. *Al-Hijamah* acts to draw inflammation and pressure away from the deep organs (especially the heart, brain, lungs, liver and kidneys) towards the skin. This facilitates the healing process. Practitioners of *Al-Hijamah* contend that this process strengthens the immune system, so encouraging the optimum functioning of the body. In other words, it assists the actions of Physis. In doing so, it diverts toxins and other harmful impurities from these vital organs towards the less-vital skin, before expulsion. *Al-Hijamah* technique is very useful, safe and can easily be applied and incorporated in family health practices.
Keywords *Unani System, Regimenal Therapy, Al-Hijamah, Humoural Imbalance*

1. Introduction

Al-Hijamah is an Arabic word which has different meanings such as:-

- Process of scalp hair removal
- Application of cups (*Seenghi*) [1]

In Unani system of medicine, various types of treatments are employed such as Regimenal therapy, Dietotherapy and Pharmacotherapy etc. Among them, the regimental therapy has very remarkable status; therefore, it is being adopted globally. *Al- Hijamah* (cupping) is one such *tadabeer* (regimen), which causes intervention through restoration of humoural balance by diverting or evacuating the morbid materials and it is practiced for many disease conditions since time immemorial.

1.1. Historical Background

Hijamah (Cupping) has been practiced since ancient times. The ancient *Unani* physicians were the first to use *hijamah* (cupping) systemically. Hippocrates describes both dry and wet *hijamah* (cupping) in his *Guide to Clinical Treatment*. The ancient Egyptians were the first to use *hijamah* (cupping). The oldest medical text book, written in approximately 1550 BC, in Egypt, describes bleeding by *hijamah* (cupping) to 'remove the foreign matter from the body'. Later, Galen was a practitioner of the procedure. After a long period of neglect, *hijamah* (cupping) was revived in the Islamic age. The Prophet Muhammed PBUH is reported to have been a user and advocate of *hijamah* (cupping) therapy. It has been reported that the Prophet PBUH said, "*Cupping and puncturing the veins are your best remedies".* Some therapeutic *hijamah* (cupping) methods and case records of treatment were also described in early Chinese books. Zhao Xueming, a Chinese doctor practicing more than 200 years ago, completed a book named "Ben Cao Gang Mu Shi Yi", in which he described in detail the history and origin of different kinds of cupping and cup shapes, functions and applications. Initially, hollow animal horns were used for the purpose of *hijamah,* which further evolved into bamboo cups, which were eventually replaced by glass or plastic cups. In the early days the technique was used solely for bleeding purposes but now a day's various diseases have claimed that they benefited from *hijamah* [2, 3, 4].

1.2. Definitions of *Hijamah*

Taber's dictionary reveals that the application of a glass vessel to the skin, from which air can be exhausted by heat or by a special suction apparatus, is known as cupping [5] in English language *Hijamah,* is termed as cupping. Several scholars of the *Unani* medicine have defined *Hijamah* (cupping) in their own words such as:

- Razi states that *Hijamah* is a process by which bleeding is oozing through the superficial small vessels located in muscles. *Hijamah* will relieve the diseases of *Imtila* from the body [6].

- Shaikh has described the process of making incision *(Pachhna)* is known as *Hijamah* which is more useful to excrete the noxious matter, accumulated close to the skin [7].

- Jurjani clarifies that *Hijamah* is a process by which superficial bleeding is initiated from the smaller vessels or their branches, situated within the muscles to lower down the *Imtila* without producing weakness in the power of the vital organs [8].

- Ibn-e Hubal Baghdadi has defined *Hijamah* as a process which helps in *istifragh-e-dam* from the small vessels of the skin & muscles and reduces the *Imtila* from the part applied [9].

- Allama Kabeeruddin says that *Hijamah* at lower extremities, especially at ankle joints is similar to the *fasd* (venesection) because normally blood and noxious matter move in the downward direction and *hijamah* also attracts them, so when *hijamah bil-shurt* is indicated at ankle joints the oozing of the blood is higher than in venesection [1].

1.3. Cupping Apparatus (*Ala-e-Hijamah*)

The process of *Hijamah* is also locally know as *applying seenghi* because in the ancient period *hijamah* was done by using cow horns *(seengh)* or other hollow animal horns. The apparatus for *hijamah* was termed as *Mahjama* which was either of horn-shaped or cup-shaped *(Aab-khorah)* or pumpkin shaped *(Qara)* [1].

1.4. Classification of *Hijamah*

Depending upon the method of the application of *hijamah* it is classified into two types such as:-

1. *Hijamah-Bila-shurt* (Non-invasive cupping or Dry cupping)
2. *Hijamah-Bil-Shurt* (invasive cupping or wet cupping or cupping with scarification) [9, 10, 11, 12].

Noninvasive cupping is characterized by application of cups without making an incision *(Pachhna).* Invasive cupping is indicated after making an incision on the included area.

Both of these types are further classified into two types:-

(A) *Mahjama Nari* (Cupping with fire)
(B) *Mahjama Ghair Nari* (Cupping without fire) [9, 11].

Such type of cupping in which any inflammable thing is placed in the cup to produce fire which creates negative pressure and thus helps in attachment of the cups at the surface of the included area is known as *Mahjama Nari.* In *Mahjama Ghair Nari* flame is not used to create the negative pressure, i.e. vacuum is created by any means other than flame (mostly by vacuum pressure pumps). [9, 10, 11, 12, 13].

(A) The following two types of *Hijamah-Bil-Shurt* were also described by some Unani scholars:

1. *Zaroori Hijamah* (Essential Cupping)
2. *Ikhtyari Hijamah* (Voluntary Cupping) [11, 12].

Essential cupping is indicated to treat the specific ailments, described by eminent Unani scholars. For voluntary cupping induction there are ten specific rules as:

1. It should be done in mid of *Qamri* (moon) month.
2. The best time in the day for voluntary cupping is just before evening as it is the most moderate time of the day.
3. It should be done in summer weather because due to heat the harmful matter is in more dilute form.
4. It should be done in such type of persons who have more dilute blood.
5. It should be advised digestive and anti suppurative syrup before the induction of voluntary cupping.
6. It should not be indicated in loose and weak persons.
7. It is contraindicated in less than two and more than sixty years of age.
8. It should not be done in loose and weak persons.
9. It should not be done just after *hammam* bath, except such type of persons who have thick blood.
10. It is advised that cupping should not be done after heavy work load or heavy exercise [11, 12].

2. Method of Applications of Cups (*Mahjamah*)

2.1. *Hijamah-bila-shurt* (Noninvasive Cupping)

Application of *Mahjama* (cups) without making an incision *(shurt)* is known as *hijamah-bila-shurt.* It is applied on affected areas by creating negative pressure inside the cups either by holding a small flame inside the cups *(Mahjama-Nari)* or by using vacuum pump (*Mahjama-Ghair-Nari*). It is specially

indicated when absorption is required without induction of *istifragh-e-dam. Mahjama-Nari* is more beneficial when morbid matter is relatively thicker [7, 12]. One important thing regarding the non-invasive cupping is that it should not be applied until the purification *(tanqiyah)* of body is done properly.

In ancient periods the application of *Mahjamah* or cups on the specific areas was achieved by holding a small flame inside the cup, to create vacuum pressure, the cups were then placed quickly on the skin over the area to be treated and were allowed to be in the place for ten to fifteen minutes. The strength of vacuum pressure was modulated by the size of the flame, the time of exposure to the flame and how quickly the cup was placed on the affected area.

2.2. Hijamah-bil-shurt (Invasive Cupping)

For induction of invasive cupping firstly cups are placed on the affected area simply, just like noninvasive cupping and create moderate vacuum pressure for a relatively short duration. This method should be done repeatedly until the affected area become reddish and swollen. Then *shurt* is done carefully, if the patient is weak only one *shurt* is sufficient but it should be wider and deeper. If blood is thick (concentrated), then *shurt* is done for two times one for dilute blood flow and other for concentrated blood flow. If blood has some impurities then one more shurt may be done to clarify it. So it is clear that if less amount of bleeding is needed then only one *shurt* is sufficient while in case of heavy bleeding requirement many incisions may be given [13].

2.3. Sites for Cupping Application

Different eminent Unani scholars have described following areas for the induction of *hijamah:*

1. ***Hijamah Naqrah*** It means cupping at the back or neck, which is beneficial in heaviness of the eye and inflammatory conditions of the eyes and bad odour from mouth [7].

2. ***Hijamah –Kawahil*** It is done at inter-scapular region especially in cases of palpitation, neck pain & shoulder joint pain etc. [8].

3. ***Hijamah Akhda-ain*** It is done on either of the *Akhda* (right and left carotid) or the lateral side of the neck. It is effective in *amraz-e-raas* (the diseases of the head e.g. diseases of the ear, nose, throat and teeth etc.) and other vital organ disorders. [14].

4. ***Hijamah Qamahduwa and Yafookh*** *Hijamah-e-Qamahduwa* is done on the protuberance behind the ear and the *Hijamah-e-Yafookh* is done on the middle and crown of the head. According to some Unani physicians these types of *hijamah* is beneficial in case of confusion, anxiety and migraines while some others say that it is beneficial for eye diseases [14].

5. ***Hijamah-Tahtul-Zaqan*** It is done on the chin and is beneficial the recurrent attack of stomatitis and other problems of gums and cheeks [6].

6. ***Hijamah-Qutun*** It is done on the folds of thighs (loin) and is effective in gout, hemorrhoids, elephantiasis, urinary bladder diseases and uterine diseases etc. [15].

7. ***Hijamah Fakhzaain*** It is done on the thighs. Cupping on the anterior aspect of thigh is beneficial for orchitis and the lower limb abscess, while cupping on the posterior aspect of thighs is beneficial in coxalgia, hemorrhoids and anal fissure etc. [14].

8. ***Hijamah Tahtul Rakbain*** When *Hijamah* is done at the lower aspect of the knee joints. It is beneficial in the knee joint pain which is due to accumulation of the noxious matter *(Akhlat-e-fasidah)*. It is also beneficial in the abscess and chronic ulcers of lower limbs [14].

9. ***Hijamah Ka'abaain*** It is done on ankle joints and it is beneficial in case of sciatica, gout & early menopause etc. [14].

10. ***Hijamah Pistaan*** Cupping at breast, which is effective in epistaxis and menstrual problems. . [14].

11. ***Hijamah Warikaain*** It means cupping on hips or buttocks. It is beneficial in the management of piles, proctitis, haematurea, epistaxis, burning micturition and other diseases of the kidney and the urinary bladder [14].

12. ***Hijamah Maq'ad*** It is cupping on the anal area and is effective in case of anal-fistula [14].

13. ***Hijamah Rusug*** It is done on wrist joints and is much beneficial in scabies, itching & ulceration of hands [14].

14. ***Hijamah Uzn*** When cupping is done on the tragus of ears; it is beneficial in heaviness and pain in the eyelids [14].

15. ***Hijamah Manakib*** It means cupping on shoulder joints. Cupping on the right shoulder is beneficial in liver diseases and on left shoulders in spleen diseases and quartan fever [14].

3. Basic Principles of Cupping

Rabban Tabri and Abu Sahal Maseehi have described three ways for voluntary bleeding:

1. Cupping for subcutaneous bleeding.
2. Leeching for relatively deep bleeding.
3. Venesection for bleeding from inner-most areas [11, 16].

Hijamah is applied in the types of ailments which can be managed by superficial or subcutaneous bleeding. There are some following important principles regarding the cupping [8, 11, 13].

Hijamah may be done after two years of age and up to sixty years of age only. *Hijamah Naqrah* should be done after completion of *istifragh* of the whole body. *Hijamah Kawahil* should be done slightly above the exact part because if it is done at the lower side it produces weakness of stomach and heart. It is instructed that the patient should take water in excessive quantity on the day of cupping. In *Balghami* and *Saudawi* temperaments *Tiryaq-e-Farooq* or *Dawa-ul-Misk* or any other hot drugs should be used before cupping to liquify the blood. *Muqawwi-e-meda* drugs (digestive tonics) such as *Sharbat Anar, Sharbat Bahi* etc. should be given to the patient before cupping. *Hijamah* should be done specially in such type of patients who have relatively diluted blood. If cupping is required in those patients who have more concentrated blood then it should be done after *Hammam*. If there is excessive accumulation of morbid matter then *hijamah* should be done after induction of venesection. If accumulated morbid matter is more concentrated then heavy massage should be done prior to non- invasive cupping induction. In the case of invasive cupping, an incision should be made according to quantity and thickness of accumulated matter, e.g. deep incision is done if morbid matter is thick [8, 11, 13].

3.1. Contraindications of *Al-Hijamah*

The following are the contraindications for *hijamah* as described by various eminent scholars of the Unani system of medicine:-

1. Before two years and after 60 years of age.
2. Just after *hammam* except if the blood is more viscous.
3. More obese patients.
4. In excessive accumulation of morbid matter.
5. In patients having weaker muscles tone.

Just after sexual intercourse and some heavy exercise [8, 11, 13].

3.2. Precaution after *Al-Hijamah*

1. One should not take eggs just after cupping.
2. Heavy meal intake should be avoided just after cupping.
3. If the patient is weak and of hot temperament then after *hijamah*, the types of drugs which empower the vital organs should be used e.g.: *Tiryaq-e-Farooq* and *Dawa-ul-Misk* etc.
4. If the patient is of cold temperament then chicken curry or pigeon curry should be advised after cupping.
5. It is better to use sour things for eating after cupping.
6. Patients should be advised to take *Arq Ghulab, Arq Kasni* and *Sharabat -Anar* etc. in case of choleric temperament.
7. *Hammam* may be advised after 2 hours of invasive cupping [9, 11, 13].

4. Mechanism of Action

In the *Unani* system of medicine *hijamah* has been in use for thousands of years but there has been no specific mechanism of the action described by any eminent *Unani* scholars. Recent studies show the mechanism which can be understand as follows:

Cupping acts to draw inflammation and pressure away from the deep organs (especially the heart, brain, lungs, liver and kidneys) towards the skin. This facilitates the healing process. Practitioners of Cupping contends that this process strengthens the immune system, so encouraging the optimum functioning of the body. In other words, it assists the actions of Physis. In doing so, it diverts toxins and other harmful impurities from these vital organs towards the less-vital skin, before expulsion. The blood which is diverted allows for a fresh 'stream' of blood to that area [2].

During cupping, both blood and lymph circulatory systems are simultaneously stimulated to work more efficiently. This results in a more efficient collection and transportation mechanism for toxic substances, depositing it into the lymphatic system to be destroyed and allowing the circulation of fresh lymph in order to nourish the tissues and generate a booster for the immune system. Cupping regulates the energy and blood flow. It helps draw out and eliminate the imbalanced quality i.e. heat, cold, moistness, dryness. Cupping also opens the pores of the skin thus allowing for the precipitation of toxin through the skin. Nothing moves blood and energy as efficiently as cupping. Where the patient's energy is deficient, the movement of blood would be slow, if the energy is abundant, the movement will be much quicker. The main objective of treatment is to remove the cause of disharmony from the body, restore the circulation of blood, energy and fluids thus aiding physis in reestablishing homeostasis [2].

5. Conclusion

Ilaj Biltadbeer means treatment through regimen which is a method through which care of the sick person and maintenance of general health as well as treatment of various diseases are performed with the help of certain procedures, tools and equipments. It is based on the theory of humours and temperament. Hijamah has been considered as an important part of this treatment. It is used to produce humoural and temperamental equilibrium in human body. Applications of *Hijamah* are very useful, safe and can be easily applied and incorporated in family health practices. *Hijamah-bila-shurt* stimulates the organs and increases the local blood circulation and carries away the morbid material through *Imala-e-Mavad*. *Hijamah-bil-Shurt* is useful to eliminate the morbid material by *Tanqiya-e-Mavad* there by relieving a number of diseases. It is also suitable for people from all walks of life for a variety of conditions and can be used both in hospital and at home to promote health and well-being virtually no side effect.

References

[1] Kabiruddin M., 1954: kulliyat-e-nafisi. Idara kitab al Shifa, New Delhi, India.

[2] University of the Western Cape School of Natural Medicine, 2009: *Cupping Therapy.* freecourseware.uwc.ac.za/ripmixlearners/_media/cupping_notes.doc

[3] Bhikha A. Rashid, 2008: *Adjunctive Cupping Therapy in the Treatment of Diabetes, Hypertension and Osteoarthritis*. Pilot Research Project, University of Western Cape, Republic of South Africa.

[4] Zhao X.M., 1963: Ben Cao Gang Mu Shi Yi [in Chinese]. People's Medical Publishing House, Beijing, China.

[5] Thomas C.L., 2001: *Taber's Cyclopedic Medical Dictionary*. 20th Ed. F.A. Davis Company, Philadelphia.

[6] Razi ABMBZ, 1991: Kitabul Mansoori. Urdu Translation by CCRUM, New Delhi, India.

[7] Kantoori G.H. Tarjuma Al Qanoon. Vol. I, Idara Kitab Al Shifa, New Delhi, India.

[8] Jurjani S.I., 2000: *Zakhira Khwarzam Shahi.* Vol. I (Urdu Translation by Hadi Hussain Khan), Matba Nami Munshi Nawal Kishore, Lucknow, Uttar Pradesh, India.

[9] Ibn-Habal et al. *Kitab-Ul- Mukhataraat Fil-Tib*. Vol. I: CCRUM, Ministry of H & FW, New Delhi, India.

[10] Chandpuri K., 1984: *Maujiz-Al-Qanoon*. Matba Taraqqi, Urdu Beauru, New Delhi, India.

[11] Ibn Al Qaf. *Kitab-ul-Umdah fil Jarahat.* Part-I, CCRUM, Ministry of Health & Family Welfare, Govt. of India.

[12] Gazrooni S., 1911: *Kulliyat-e-Sadeedi* (Urdu Translation by Syed Abid Hussain). Matba Munshi Naval Kishor, Lucknow, Uttar Pradesh, India.

[13] Zahrawi AQ. *Jarahiyat-e-Zahrawiyah* (Urdu Translation by Nisar Ahmad Alvi). Matba Dar-ul-Isha'at, Kanpur, Uttar Pradesh, India.

[14] Kabiruddin M., 2006: Tarjuma wa Sharha Kulliyat-e-Qanoon. Ejaj Publishing House, New Delhi, India.

[15] Anwar S.A., 2001: *Ilm-ul-Jarahat*. Afeef Offset, Delhi, India.

[16] Tabri R., 2010: *Firdousul Hikmat*. (Urdu Translation by MA Shah S). Idara Kitab Al Shifa, New Delhi, India.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 71-74, Article ID Med-51
ISSN: 2320 – 0251

Review Article | Open Access

Cancer – An Ayurvedic View

Mahesh Kumar Harit

Department of Sanskrit, Samhita & Siddhant, Dr. D.Y. Patil College of Ayurved & Research Institute, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Mahesh Kumar Harit, drmaheshkharit@gmail.com

Publication Date: 18 June 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-51

Abstract Cancer is a dreadful disease. Uncontrolled growth of cells is called Cancer. First cell is formed from sperm & ovum [Shukra & Shonit]. Controlled multiple division of this cell is result of individual's body. If this division is uncontrolled, it is cause to create Cancer. Every divided cell is producing same type of new cells. If new cell is not as it is in comparison with mother cell, it can be called cancer. It is not a new disease, ancient text of Ayurved have definite references. In Ayurved, it is described as an Arbuda, Vidradhi, Granthi, Gulma, Shoth and Apachi etc. As per etiology of Ayurved Shoth is primary symptom of Cancer. Because of diminished Jatharagani and Dhatvagni aamotpati takes place. The sthanashanshraya stage is the base of uncontrolled growth. Specific Dhatvagnimandhya is result of specific dhatu's abnormal vridhi or uncontrolled growth. According to Ayurvedic texts, cancer is a serious Dhatugat disease. So, shodhana chikitsa is required as per condition of disease and patient. Raktamokshan (Bloodletting), Shalya Karma (Surgery) and Agnikarma (Heat Burn therapy) are especially beneficial in this disease. Following drugs are useful for internal use – Kanchnar, Gokshure, Nirgundi, Punarnava, Bhumyamalaki, Bhalataka, Ashwagandha, Ahiphen, Rohitak, Hirak Bhasma, Suvarna Bhasma, Tamra Bhasma, Shringa Bhasma, Abhraka Bhasma etc. There is a definite need to use these drugs in various formulations to establish therapeutic efficacy to conquer this challenging disease.
Keywords *Cancer, Cells, Arbudha, Granthi, Shoth, Gulma, Jathragni, Dhatvagni, Amotpati*

1. Introduction

Cancer is one of the most dreadful diseases of present century. So many efforts have been taken yet but successes are still far, that's why terror of disease is bigger than disease. However due to sincere hard work done by all branches of medical science, some concepts develop and little bit light seen in treatment process of cancer. Development of Cancer and developments of placental origin like human, animals are similar. When Shukra and Shonit are met in uterus and convert in to single cell. Regular multiple divisions in this cell are base of human structure. These developments provide a particular shape of human. Same type of development happens in Cancer. Previous development is controlled, natural and it is stop after particular limits but second one is uncontrolled, unnatural and

unstoppable. This type of uncontrolled growth is called Cancer. In the natural multiple division process one cell produces same type of cells. It is not possible to differentiate them. If cell is producing different nature of cells then it is also in Cancer category.

'Cancer' - this word is not available in any of Ayurvedic texts. As per guide line given by our Acharya that names are not important to identify any of diseases. Important is Dosh – Dushya status in disease. In Ayurvedic texts, there are many words that have similar meaning as Cancer and similar diseases/symptoms which are match with characteristic of Cancer. As acharya Sushruta described that from **musti prahar** on particular site result is the swelling, it is dushit mansajanya shoth (infected swelling or growth). There is no pain on site and effected area is smooth, hard and non-movable (fixed). Non vegetarian persons who have consuming excess fats are main victim. If it is spread up to marmasthan (vital organ), involvement of Raktvaha srotas and Lasikavaha srotas and without any movement, it is makes difficulties to treat (Asadhaya). There are references that in the ancient time specialists (अर्बुदज्ञ) are available to treat this type of disease as mentioned below.

यज्जायतेन्यत्खलु पूर्वजाते ज्ञेयं तदध्यर्बुदमर्बुदज्ञैः | [1]

Various **synonyms** like Shoth, Granthi, Arbud, Apachi, Gulma, and Vidhradi are found in ancient texts.

2. Prevalence of Disease

Cancer spread all over the world. Each & every types of humankinds are victim of this disease especially non vegetarian. In India it is one of the most dangerous diseases after heart disease and diabetes. It is exist in every part of the country. Every religion, every cast's peoples are suffer from it, lack of education, low awareness and negligence by individuals are the reason behind it. It is very difficult to identify in early stage. When primary stage is passed then it is not easy to treat and there are very few option in treatment, that's make it dangerous diseases.

3. Hetu

The person who are regular touch with carcinogenic factors like Alcohol, Tobacco, Non veg., spicy food etc. or factors which are irritating cells. Again and again irritation of cells is the cause of the unnatural growth. Some of causes identify by modern scientist are as follows: [4]

1. Hereditary cause
2. Vkrut aahar – vihar
3. Pollutions
4. Low immunity power
5. Regular irritation of internal & external part of the body
6. Continue consumption of carcinogenic drugs like – Tobacco, Supari, Smoking, Long time particular hormones or modern medicine consumption, Air mixed with chemicals, and non-vegetarian food

4. Ayurvedic Prospective

गात्र प्रदेशे क्वचिदेव दोषा: समूर्च्छिता मांसमभिप्रदूष्य |
वृत्तं स्थिरं मन्दरूजं महान्तमनल्पमूलं चिरवृद्धयपाकम् |
कुर्वन्ति मांसोपचयं तु शोफं तदर्बुदं शास्त्रविदो वदन्ति || [2]

Acharya Sushruta describe characteristic of Arbuda that, aggregation of vatadi dosha vitiated mamsa & rakta dhatu. It is rounded, stiff, with little bit pain, wide & deep spread in base, slow progress and it will be never getting pakaavastha. This type of gland of mamsa is called Arbuda.
Same was verify by Acharya Charak, as –

रोगाश्चचोत्सेधसामान्यादधिमांसार्बुदादय: |
विशिष्टा नामरूपाभ्यां निर्देश्या: शोथ संग्रहे: || [3]

And we can found similar description in modern science. So, it is quite clear that ancient Acharyas had knowledge about Cancer.

5. Prognosis in Ayurved

As per Ayurved whenever aggravated Dosha hit to any type of infected swelling or swelling related disease, with associate of Aam and because of Vikruti Vishama Samvet dosha Sammurchana symptoms arises like Cancer. Name and type of Cancer is depending on which organ of body & Dhatus are affected. Because of some internal or external causes all Doshas get vitiated. These vitiated Doshas lead to low Dhatvagni and they reside at srotas of related Dhatu with shoth (swelling). Aam increase this vitiation. It is specialty of dhatvagni that Dhatu who have low agni, got vikrut vridhi. So, it is quite clear from above description that it can be treated as per status of hetu, dosh, dushaya, samprapti, stages & symptoms. Similar principle applied on Cancer.
The pathogenesis (Samprapti) can be easily explained by the flow chart given:

Causative of Ahar – Vihar + Tridosh vitiated Ahar – Vihar
|
Tridosh aggression
|
- ----------
| |
Jathragnimandh Dhatvagnimandh
| |

|
Amotpati
|
Vikrut vrudhi of dhatu
|
Sthansanshraya
|
Visham samveta dosha dushya sammurchana
|
Vyadhi

6. Ayurvedic Management

In Ayurved two types of treatment describes i.e. Shodhan Chikitsa & Shaman Chikitsa. Shodhan chikitsa preferably use for removal of vitiated doshas from arising area. As per Ayurvedic texts cancer is a serious Dhatugat disease. Almost all dhatus involvements are there. It is difficult condition to treat. So, to reach in the depth of dhatu shodhana chikitsa is required. It should be use as per condition of disease and patient. Raktamokshan (Bloodletting), Shalya Karma (Surgery) and Agnikarma (Heat Burn therapy) are especially beneficial in this disease. These all procedures remove infected part or control the abnormal growth of particular site. After shodhan therapy Dhatus are relived from Dosha and then shaman chikitsa may carry forward for the equilibrium of Doshas. As per Ayurvedic texts following drugs are useful for internal use – Kanchnar, Gokshur, Nirgundi, Punarnava, Bhumyamalaki, Bhalataka, Ashwagandha, Ahiphen, Rohitak, Hirak Bhasma, Suvarna Bhasma, Tamra Bhasma, Shringa Bhasma, Abhraka Bhasma etc. These all drugs control the abnormality of growth and provide the symptomatic relief.

7. Conclusion

Still there is a definite need to use these drugs in various formulations to establish therapeutic efficacy to conquer this challenging disease. There are need to conduct authentic research, that should be based on principal of Ayurved and mentioned drugs or formulation can be trial on mass number of individuals.

References

[1] Sushrut Samhita, By Ambikadutta Shastri, Nidan sthan 11 / 21, 355.

[2] Sushrut Samhita, By Ambikadutta Shastri, Nidan sthan 13 / 11, 352.

[3] Agnivesh Charak Samhita, By Kashinath Pandey & Gorakhnath Chaturvedi, Sutra Sthan 18 / 33, 381.

[4] Sushrut Samhita, By Ambikadutta Shastri, Nidan sthan 11 / 16-20, 354.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 59-70, Article ID Med-52
ISSN: 2320 – 0251

Review Article | Open Access

Dalk (Therapeutic Massage) & Their Indication for Musculoskeletal Disorder in Unani Medicine

Tanwir M.A.[1], Ansari A.H.[1], Aisha P.[2] and Anzar M.A.[3]

[1]Department of Preventive and Social Medicine (TST), National Institute of Unani Medicine (NIUM), Bangalore, Karnataka, India
[2]Department of Ilmul Advia, National Institute of Unani Medicine (NIUM), Bangalore, Karnataka, India
[3]Department of Moalajat, National Institute of Unani Medicine (NIUM), Bangalore, Karnataka, India

Correspondence should be addressed to Tanwir M.A., tanveernium3133@gmail.com

Publication Date: 13 June 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-52

Abstract Massage is one of those terms, which are easily understood then expressed. Throughout the history massage has been used not only by sick but also by the healthy people for therapeutic, restorative as well as preventive purposes. Massage is probably one of the oldest healing therapies known to mankind. The message of massage is universal: you can use your hand to help literally anyone. One of the many reasons for its increased popularity is that massage allows us to reach out and to touch each other. It is a formalized touches; giving us a licence to touch within clearly defined boundaries [1]. In Unani system of medicine (USM) massage is called as "*Dalk*" and is frequently used as preventive, curative and rehabilitative purposes since centuries. Here we will discuss the indication of massage for the musculoskeletal disorders.

Keywords *Unani System of Medicine, Massage, Dalk, Musculoskeletal Disorders*

1. Introduction

Massage therapy dates back thousands years. It can be traced back farther than 5000 years of recorded history. Pre historic cave paintings have indicated the "laying on of heads" of the sick and injured. References to massage practice appear in Hebrew, Egyptian, Persian, Rome, Greece, Arabian, Indian, Chinese and Japanese medical practice. An Egyptian papyrus written approximately 1700 BC portrays an impressive knowledge of the relationship between spinal alignment and proper muscular functions [2]. The earliest recorded reference appearing in the Nei Ching/ Nei Jing, a Chinese medical text written before 2600 BC, had mentioned the use of massage in paralysis and in cessation of circulation. Later writing on massage come from scholars and physicians such as Hippocrates (460-357BC) in the fifth century BC and Avicenna and Ambrose Pare in the 10th and 16th (some say 17th) century AD, respectively. Two missionaries named Hue, Amiot translated a very famous book on massage, "the book of Cong-Fou", and this created great interest and influenced the thinking of many massage practitioners. The expression for massage in India was Champ, Mardan,

Abhyang and shampooing; in China it was known as Cong-Fou, and in Japan as Ambouk. The word therapeutic is defined as “of or relating to the treatment or cure of a disorder or disease”. It comes from the Greek therapeutikos, and relates to the effect of the medical treatment (therapy) [1].

Initially there was dispute regarding the origin of this word (massage). Few authors claimed it derived from the Arabic word- Mass (to touch), others said it was from the Greek word- Massein (to knead). The Hebrew word- Mashesh (to touch, to feel, to grasp), and the Sanskrit word-Makesh (to strike, to press) were also said to have been the original from which the word massage came. The Arabic and Greek origin proposed by Savery in 1785 and Piory in 1819 respectively, has been considered more authentic, due to widespread use of massage in east and ancient Rome. This word, according to Oxford dictionary, entered in the English literature in 1879. French colonies in India first used the term “massage” during 1761-1773 and included it for the first time in 1812 in French-German dictionary. In ancient Syria, Babylon and Assyrian massage was believed to be capable of expelling spirits from a person’s body. Hippocrates was the first person, who discussed the qualities and contraindication of massage. He recognized massage as a therapeutic agent. Another Greek physician Asclepedius who was great advocate of massage and physical therapy, had recommended this technique as the third most important treatment modality [3].

Considering a low risk of harm and high benefits massage is a perfect regimen for the treatment of pain. Research has confined the use of massage therapy as an effective tool for pain management without producing adverse reactions that can occur with medication. Massage is among the most common alternative therapies for relieving the pain [4].

Massage involves physician manipulation techniques to make various parts of the body, such as muscles, connective tissues and vertebrae, work together and functions properly [5]. Massage has been regarded for a long time as having a variety of physiological and psychological effects. In recent years, the therapeutic trend is even more towards evidence-based practice and this has led to an ever-growing body of research seeking to establish scientifically the effects of massage [6].

2. Therapeutic Massage

The basic goal of massage therapy is to help the body heal itself and to increase health and well-being. Performing therapeutic massage requires a firm background in pathology and utilizes specific treatments appropriate to working with disease, pain, and recovery from injury. Massage is a pleasant and desirable intervention and is safe when delivered by trained practitioners using standard techniques.

Massage therapy is one of the most popular CAM techniques in the USA. Between 2002 and 2007, the 1-year prevalence of use of massage by the US adult population increased from 5% (10 million) to 8.3% (18 million). Massage is generally used, with some research support, to relieve pain from musculoskeletal disorders and cancer, rehabilitate sports injuries, reduce stress, increase relaxation, decrease feelings of anxiety and depression, and aid in general wellness [7].

More and more, massage therapy is being utilized to relieve health problems. Massage therapy is considered a form of medical treatment in several countries where it is covered by national health insurance, including China, Japan, Russia, and West Germany. On the European continent, massage has been a routine form of therapy for acute and chronic lower back pain for many decades. In Canada, massage therapy still is considered an alternative therapy. Nonetheless, its popularity seems

to be growing. The treatment and prevention of injury and pain of muscles and joints by manual and physical methods to develop, maintain, rehabilitate, or increase physical function to relieve pain and promote health [8].

3. Massage Treatments Aim To

- Develop, maintain, rehabilitate or augment physical function - Massage therapy has become a staple of many professional athletes' training regimens. But not just athletes. Lifestyle factors, such as long work hours or physically taxing tasks, lead many members of the workforce to seek the assistance of a massage therapist.
- Relieve or prevent physical dysfunction and pain - By alleviating or preventing pain, dysfunction can be combated**.**
- Relax tight and tense muscles - Many people don't realize how much a tight muscle impacts on vital things such as posture. A tense muscle can throw off your body's balance. Before long, muscles that were not initially tight begin to tense as they compensate for other parts of the body. It becomes a chain reaction that can spread far from the initial problem spot.
- Improve circulation, recovery time and immune system function - The movements of massage cause blood to flush in and out of muscles and joints. This flushing process - enhancing circulation in the affected areas - can, in some cases, aid recovery time from injuries.
- Reduce overall stress - Stress, for example, increases the risk of heart disease.
- Massage therapy is also effective in the control of pain, chronic or acute, in stress reduction, and in creating a sense of relaxation and well-being [9].

4. Definition

Massage is one of those terms, which are easily understood and expressed. Throughout the history massage has been used not only by sick but also by the healthy people for therapeutic, restorative as well as preventive purposes; but people still find it difficult to define massage although they are confident of its meaning.

In *USM;* massage is considered as a type of exercise [10]. A number of Unani physicians advocate use of Dalk for the preventive as well as the curative purpose in various diseases. In spite of this, not even a single definition has been given yet. On the basis of description of Dalk in Unani text, it can be appropriately defined as

"Dalk is a type of exercise practiced with palm and digits by a skilled person on the body surface in varieties of ways to dissolve the morbid matters and to assist the quwa (faculties) for therapeutic and preventive purpose" [11].

According to Unani System of Medicine Dalk comes under the heading of Regimenal therapy (*Ilaj-Bit-Tadbeer*). It helps in excretion of byproduct of Hazme Uzwi / hazme akheer (digestion in organ) [10].

5. Types of Massage

Several varieties of *Dalk* have been recommended in Unani system of Medicine e.g. *Dalk e sulb* (hard), *Dalk e layyin* (soft), etc. prolonged or moderate massages. Hard friction or massage is *Mufatteh-e-Sudad* (deobstruent) and makes the body firm. Soft massage is sedative and relaxes the

body while prolonged massage (*Dalk kaseer*) reduces the fat of the body; moderate massage (*Dalk motadil*) develops the body as well as improves and maintains blood circulation of the particular organ; rough friction with a rough cloth (*Dalk khashin*) enhances vasodilatation of the particular organ etc. Ibn Sina describes 19 (25) different types of *Dalk* that are listed below [12].

I. Baseet Mufrad (Single) types: 6 types

(A). According to kaifyat (quality) - according to pressure exerted on the part

1. Dalk Sulb (Hard massage)
2. Dalk Layyin (Smooth massage)
3. Dalk Motadil (moderate massage)

(B). According to Kammiyat/ Miqdar (quantity) - for how long massage is given

4. Dalk Kaseer (Prolonged massage)
5. Dalk Qaleel (Short massage)
6. Dalk Motadil (moderate massage)

II. Murakkab (Compound) are made by combining the above basic types: 9 types

7. Dalk Sulb Kaseer
8. Dalk Sulb Qaleel
9. Dalk Sulb Motadil
10. Dalk Layyin Kaseer
11. Dalk Layyin Qaleel
12. Dalk Layyin Motadil
13. Dalk Motadil Kaseer
14. Dalk Motadil Qaleel
15. Dalk Motadil Motadil (Dalk motadil in all respects in kammiyat and kaifiyat)

Few More Types

16. Dalk Khashin (rough massage) - with rough cloths.
17. Dalk Amlas (Gentle massage) - with soft and smooth cloths/oil.
18. Dalk Istedad: (Warm up/preparatory massage before starting the exercise)
    (1) Qawi
    (2) Zae'ef
    (3) Motadil
    (4) Taweel
    (5) Qaseer
    (6) Motadil

19. Dalk Isterdad/musakkin (Relaxing massage)- at the end of exercise [12]

6. Time and Duration of Massage

Time: Same as mentioned for the exercise. Massage should preferably be done in the early hours of morning, when the stomach of the patient is empty. It can also be done in the evening 3-4 hours after lunch. It should not be done immediately after taking food.

- **Rabee** (Spring): noon
- **Saif** (Summer): morning
- **Khareef** (Autumn): noon
- **Shitta** (Winter): after noon [12]

Duration: The duration of massage is not exactly mentioned in any Unani text in terms of minute or hours, but it has been extensively discussed about the choice of massage can accurately be chosen by keeping following in mind

- Strength and type of organ to be massaged,
- Mizaj of organ to be massaged
- Type of oil
- Mizaj of disease
- Mizaj of person
- Condition of disease
- Condition of patients
- Seasons
- Desired outcome
- Temperature of the massage cabin

Some Other Factors

- In healthy individuals for just relaxation and has no pain: 30 to 40 minutes
- In pains and aches: more longer time
- In physically weak: 15-20 minutes in beginning slowly increased to 30-35 minutes
- For those who receive daily massage: 25-30minutes.
- Old people: need one hour or more

7. Therapeutic Indications of Massage in General

In USM, massage is indicated in a number of musculoskeletal and neurological disorders, which are as follows;

- For general weakness
- **Disorders of joints**: all types of arthritis – Wajaul mafasil (R A, OA, Gout/Niqras) and **spondylosis**.
- **Diseases of muscles** like myositis associated with pain, spasm, muscular weakness, muscular dystrophy, hemiparesis, atrophy and various types of myopathies.
- **Nervous system disorder**- neuralgia, sciatica (irqun nissa), poliomyelitis, Falij (hemiplagia, paraplegia, quadriplegia), Laqwa (facial/ bell's palsy)

- **Disease in sportsmen** – Muscular injury, tennis elbow, lumbago, frozen shoulder, backache, sprains and aches, Tensosynovitis, tendinitis, and fibrositis.

8. Major Musculoskeletal Disorders and Indication of Therapeutic Massage

(For more details See Table 1)

I. Neck Pain (Wajaul unuq) / cervical spondylosis

Cause: 1. Sue mizaj barid sada
2. Sue mizaj barid maddi (Kham Balgham)
Dalk: Layyin kaseer
Oil: Roghan shibbat, R.baboona, R.murakkab
Duration: 20 minutes

II. Frozen Shoulder

Cause: Sue mizaj barid Yabis
Dalk: 1. Layyin kaseer or
2. Motadil kaseer
Oil: R. Babooba, R. Zaitoon, R. Murakkab,
Duration: 10-15 minutes

III. Back Pain (Wajaul Zohar) / LBP (Wajaul khasra) / Hip Joint Pain (Wajaul warak)/Lumbar Spondylosis

Cause: 1. Sue mizaj barid sada wa maddi (Balgham Kham)
2. Sue mizaj haar
3. Riyaah barid
Dalk: Dalk Khashin followed by Dalk Sulb kaseer
Oil: Hot oil having jundbedastar,
R.narjeel kohna, R.kharu, R.habbe utraj, R.joz kohna, R.sosan,
R.tukhme anjeer, R.qurtum, R.qust. R.farfiyun, R.qust, R.suddab R. kunjud.
Duration: 20 minutes

IV. Rheumatism (Arthritis/ Rheumatoid arthritis) Wajaul mafasil hadar, tahajur mafasil

Cause: 1. Sue mizaj barid (balghami)
2. Sue mizaj haar
Dalk: Sulb kaseer
Oil: Balgami: - R. bedanjeer, R.nardeen, R.Qust, R.badam talkh, R.baboona,
R.haft barg/awraaq), R.murakkab, R.haft barg, R.biskhapra,
R.arand [16], R.sumbul. R.qust, R.badam talkh
Duration: 10-15 minutes

V. Sciatica/ Gout

Cause: 1. Sue mizaj maddi (Balghami, Safrawi and damwi)
2. Sue mizaj Yabis sada
Dalk: 1. Sulb kaseer
2. Motadil kaseer (gout)
Oil: Aromatic Oil having jundbedastar, farfiyoon and Miya saila, R.hanzal, R.jundbedashtar, R.khardil, R.joz rumi, R. Qust, R.farfiyun, R.aqarqarha, R.hina
Duration: 20 minutes

VI. Carpel tunnel syndrome / Wrist joint pain

Cause: Sprain
Dalk: Motadil
Oil: Roghan haft barg, R.babooba, R. murakkab
Duration: 15 minutes

VII. Paralysis (falij): Hemiplegia (Falije Nisfi)/Quadriplegia (falij aam), Facial paralysis (laqwa)/palsy (istarkha)

Cause: 1. Sue mizaj barid sada wa maddi (Balghami)
2. Sue mizaj haar maddi (Damwi)
3. Rooh ke nafooz me rukawat
4. Sudda (masalik rooh/ sharayeen)
Dalk: 1. Sulb kaseer (khoob dair tak)
2. Layyin motadil/kaseer (facial palsy)
Oil: R.qust, nardeen, kaknaj, kalkalanaj, R.badam, R.zambeeq, R.balsan prepared with jundbedastar, farfiyoon Miya saila. R.turab, R. shibbat, R.zait, R.sosan, R.bedanjeer, R.nargis, R.utraj
Duration: 20 minutes

VIII. Muscular Spasm/Tashannuj aaza

Cause: 1. Sue mizaj maddi Ratab (Imtela mawad)
2. Sue mizaj Yabis sada
Dalk: Dalk Qawi shadeed wa kaseer
Oil: Imtelai: R.suddab, R.qust, R.balsan, R.yasmeen- all are prepared with Jundbedastar & Farfiyun, R. Bedanjeer,
Yabsi: R. Neelofar, R.banafsa, R.kaddu, R.farya, R.badam shirin, R.Shibbat, R.surkh
Duration: 15-20

IX. Wasting of Muscle

Cause: 1. Sue mizaj Yabis sada
2. Qillat ghiza (uzwi)
3. Rooh ke nafooz me rukawat
Dalk: Sulb kaseer

Oil: Roghan malkangni, R. Badam shirin, R.Qust (usually by mixing all of three in ratio of 1:2:2) R. Banafsha,
Duration: 15-20 minutes

X. Kyphosis/Scoliosis/Lordosis (Hadba/Riyahulafrasa)/Disc Prolapsed

Cause: 1. Sue mizaj maddi barid (Imtela Ratubat)
2. Sue mizaj Yabis sada (Ghaleez Riyaah)
Dalk: Sulb kaseer
Oil: Ratabi: R. arand [17], R.azad- all prepared with jundbedastar, farfiyoon & Miya saila. R.mom [17], R.qust [17], R.baan [17], R. kheeri asfar [17],
Riyaahi: (haar+qabiz) R. Saru, R.suddab, R.aqirqarha, R.jundbedastar, R.anjeer, R.Qust
Duration: 20 minutes

XI. Funny Turns/ Rasha

Cause: 1 Sue mizaj barid Sada
2. Sue mizaj barid Ratab
3. Buroodat aasab
Dalk: Motadil kaseer
Oil: R.sosan, R.qust, R.biskhapra, R.qasa-ul-hammar.
Duration: 10-15 minutes

XII. Erectile dysfunction

Cause: 1. Sue mizaj Yabis sada
2. Rooh ke nafooz me rukawat
Dalk: Motadil kaseer
Oil: Roghan gul, R.banafsa, R.zaitoon
Duration: 10 minutes

XIII. Muscular Fatigue/Pain (aiyaa)

Cause: 1. Sue mizaj Yabis (due to istafragh Ghair tabai)
2. Sue mizaj maddi (Imtela mawad)
Dalk: Dalk motadil (Dalk Isterdad)
Oil: Yabis: R.banafsa, R.nelofer
Ratabi: R. kheeri R.asfar, R.Qust, R.baan, R.baboona, R.zaitoon, R.murakkan, R.shibbat
Duration: 10 minute

Table 1: *Musculoskeletal Disorders with Type of Massage, Duration and Oils Used*

S. No.	Disease Name	Cause (s)	Types of Dalk	Duration (Minute)	Oil (s)
1	Neck pain (wajaul unuq) /Cervical spondylosis	Sue mizaj barid sada/maddi(kham Balgham)	Layyin kaseer	20	R.Shibbat [13,11,] R. Baboona, R.murakkab
2	Frozen shoulder	Sue mizaj barid yabis	Motadil kaseer	10-15	R.babooba, R.zaitoon, R. Murakkab,
3	Back pain(Wajaul Zohar)/LBP(Wajaul khasra)/Hip joint pain (Wajaul warak)/Lumbar spondylosis	Sue mizaj barid (Balgham khaam) wa haar[14], riyaah barid.	Dalk khashin[15] followed by Sulb kaseer	20	(Hot oil with jund, R.narjeel kohna, kharu, R.habbe utraj, R.joz kohna, R.tukhm anjeer, R.qurtum, R.qust[16])[15]. R.farfiyun[14], R.qust[14], R.suddab[14,16], R.sosan[14], R.kunjud[16].
4	Rheumatism (Arthritis/ Rheumatoid arthritis) Wajaul mafasil-hadar, tahajur mafasil	Sue mizaj barid(balghami)/ha ar	Sulb kaseer	10-15	Balghami:-(R. bedanjeer, R.nardeen, R.qust, R.badam talkh, R.baboona, R.haft barg/awraaq)[15], R.murakkab, R.haft barg, R.biskhapra[14], R.arand[16], R.sumbul[16]. R.qust[16], R.badam talkh[16].
5	Sciatica/ Gout	Sue mizaj maddi (balghami, safrabi wa damwi)[18], yabusat[18]	Sulb kaseer/ Motadil kaseer(gout)	20	Aromatic Oil (+ jund bedastar, farfiyoon Miya saila[14,18], R.hanzal[14],R.jundbedashtar[14],R.khardil[14], R.joz rumi[14], R.qust[14,16], R.farfiyun[16], R.aqarqarha[16], R.hina[16]
6	Carpel tunnel syndrome/ Wrist joint pain	Sprain	Motadil	10	Roghan haft barg, R.babooba, R. murakkab
7	Paralysis(falij): Hemiplegia (Falije Nisfi) / Quadriplegia (falij aam)/Facial paralysis(laqwa)/palsy (istarkha)/ khadr	Sue miza barid(balghami) wa haar(damwi) [16,17]	Sulb kaseer (khoob dair tak)[19], facial-Layyin motadil/kaseer	10[21] (FN) 20	R.qust,[17,19], R.nardeen[14,18,19], kaknaj[19], kalkalanaj[19],R.badam[19], R.zambeeq[19], R.utraj[19], R.balsan[18,19],(+ jund bedastar, farfiyoon Miya saila)[19], R.turab[14], R.soya/shibbat[18], R.zait[14],R.sosan[14], R.bedanjeer[14], R.nargis[14]. R. seer[20],(R malkangni:R.Badam shirin:R.Qust=1:2:2)
8	Spasm/ Tashannuj(convulsion)	Imtela ratubat or Yabusat[10, 18,19]	Qawee shaded wa kaseer[19]	15-20	Imtela: R.suddab[15], qust[15,16], balsan, yasmeen, (+ jund bedastar,

					farfiyoon)[19],R. Bedanjeer[15], Yabis: R. Neelofar, R.banafsa, R.kaddu, R.farya, R.badam shirin, R.soya, R.surkh[16]
9	Wasting of muscle	Sue mizaj Yabis.	Sulb kaseer	15-20	Roghan malkanghni, R. Badam shirin, R.qust, R. Banafsa.
10	Kyphosis/Scoliosis/ Lordosis (Hadba/Riyah-ul-afrasa)/ Disc prolapse	Imtela/Ratoobat, ghaleez riyah[15]	Sulb kaseer	20	Ratab:R. arand[17], R.azad (+ jund bedastar, farfiyoon Miya saila)[18] ,R.mom[17], R.qust[17], R.baan[17], R. kheeri asfar[17], Riyaah:(haar+qabiz) R. Saru[15], R.suddab[15], R.aqirqarha[15], R.jundbedastar[15],R.anjeer[15], R.qust[15]
11	Funny turns/rasha	Sue mizaj barid or barid Ratab[17], Buroodat aasab[13]	Motadil kaseer	10-15	R.sosan[18], R.qust[18], R.biskhapra[14], R.qasa-ul-hammar[14].
12	Erectile dysfunction	Sue mizaj yabis	Layyin kaseer	10	Roghan gul[16]
13	Muscular fatigue/pain (aiyaa)	Yabusat (istafragh ghair tabai)[17] wa imtela[17]	Motadil (Dalk Isterdad)	10	(R. kheeri R.asfar, R.qust, R.baan[17], R.babuna, R.zaitun, R.murakkan, R.shibbat, R.banafsa(Yabis)

R= Roghan (oil)

9. Conclusion

Massage holds an important place as a therapeutic modality in Unani Medicine. Preventive and therapeutic massage is the mainstream treatment of unani medicine since centuries and it is being indicated for range of musculoskeletal diseases since then. The author of this article admits that, although the unani writings contain observation based but scattered sayings about massage, their apparent simplicity hides deep healing wisdom that only becomes apparent after years of experience in massage therapy. Unani medicine considers “Giving a massage, the masseur has to not only consider who the massage is for, but also when it's given, how much & how it should be given and for what purpose”. In this article simply basic information of massage like definition, type and indication of massage has described, but this therapy still need more observational trials so as to it can be standardized and its rational use can be justified more profoundly.

References

[1] Cassar M.P., 2004: *Handbook of Clinical Massage- A Complete Guide for Students and Professionals*. 2nd Ed. Churchill Livingston- an imprint of Elsevier, London, 1-4.

[2] Anonymous, 2011: *Pain Management with Massage.* School of Integrated Body Therapy Lake Spa Healing Therapy & Education Centres, Charmhaven, NSW, Australia. http://www.massageschool.com.au/articles/painmanagementwithmassage.pdf

[3] Sinha A.G., 2004: *Principle and Practice of Therapeutic Massage*. JP Brothers Medical Publishers, New Delhi, 107-108.

[4] Dhanani N.M., et al. *Complementary and Alternative Medicine for Pain: An Evidence-based Review.* Curr Pain Headache Rep. 2011. 15; 39-46.

[5] Fundukian L.J., 2009: Gale Encyclopaedia of Alternative Medicine. 3rd Ed. Gale Cengage Learning, China, 1584-86, 1683-1686.

[6] Hollis M., 2004: *Massage for Therapists*. 2nd Ed. Reprinted by Blackwell Science Ltd, Noida, 30.

[7] Ather Ali et al. *Development of a Manualized Protocol of Massage Therapy for Clinical Trials in Osteoarthritis.* Trials. 2012. 13; 185.

[8] Chris Back et al. *The Effects of Employer Provided Massage Therapy on Job Satisfaction, Workplace Stress, and Pain and Discomfort.* Holistic Nursing Practice. 2009. 23 (1)19-31.

[9] MassageDen.com, http://www.massageden.com.

[10] Ibn Rushd Abdul Walid. Kitabul Kulliyat (Urdu translation by CCRUM, Literary Research Unit, Lucknow). New Delhi. CCRUM. 1987. 124-25, 29, 345-46, 54-55.

[11] Tanwir M.A., 2012: Effect of Dalake Layyin Kaseer with Roghane Shibbat in Slowing the Progress of Wajaul Unuq (Cervical Pain). Dissertation. Rajiv Gandhi University of Health Sciences (RGUHS) In Tahaffuzi Wa Samaji Tib. Bangalore, Karnataka, India.

[12] Ibn Sina Abu Ali., 1930: Kulliyate Qanoon (Tarjuma wa Sharah by Kabeeruddin M). Part 1&2. Sheikh Basheer and Sons Publications, Lahore, Pakistan. 148, 50-54.

[13] Ibn Zohar Abu Marwan Abdul Malik. Kitabut Taisir fil Madawa wat Tadbir (Urdu Translation by CCRUM). CCRUM, New Delhi. 1986. 79, 83-84, 88.

[14] Ibn Sina Abu Ali. Al Qanoon (Urdu Translation by Ghulam Hasnain Kantoori). Vol. 1-5. Idara Kitabush Shifa, New Delhi. YNM: 586, 592, 1118-19, 28-29.

[15] Mohammad Azam Khan. Akseer-re-Azam (Al-Akseer). (Urdu Translation by Mohammad Kabeeruddin). Idara Kitab-us-Shifa, New Delhi. 2011. 832-34, 41.

[16] Najeebuddin Samarqandi. Sharah Asbab (Urdu Translation by Mohammad Kabeeruddin). Vol. 1 & 2 (combined). Idara Kitab-us-Shifa, New Delhi. 2009. 124-157 (Vol.1), 163-76 (Vol.2).

[17] Razi Abu Bakar Mohammad bin Zakariya. Kitab Al Mansoori (Urdu Translation by CCRUM). Ed.1, CCRUM, New Delhi. 1991. 322-24, 91-94.

[18] Majoosi Ali Ibn Abbas. Kamilus Sanaa'h (Urdu Translation by Hakeem Ghulam Hasnain Kintoori). Part 1. Vol. 2. CCRUM, New Delhi. 2010. 581-98.

[19] Tabri Raban. Firdausul Hikmat (Urdu Translation by Hakeem Mohammad shah sambhali). Faisal Brothers, New Delhi. 2002. 184-90, 291.

[20] Amanullah Haji, 2009: Efficacy of Massage with Roghan Seer in Motor Recovery in Falije Nisfi. Dissertation. Rajiv Gandhi University of Health Sciences (RGUHS), In Moalajat. Bangalore, Karnataka, India.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 33-45, Article ID Med-59
ISSN 2320 - 0251

Research Article | Open Access

Efficacy of Malati Kashtha Churna (*Jasminum officinale Linn.*) for Dantadhavana

Rakesh R. Shukla

Department of Swasthavritta, College of Ayurved, Bharati Vidyapeeth Deemed University, Pune, Maharashtra, India

Correspondence should be addressed to Rakesh R. Shukla, drrakesh.ayur@gmail.com

Publication Date: 8 May 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-59

Abstract In modern life, however due to lack of time and negligence; Oral hygiene not properly maintained. Malati having Tikta, kasaya rasa and katu vipak and Ushna, snigdha guna. Dantadhavana prevent us from Mukhadaurgandhya, Asyavairasya, Dantamala, Dantamalinta and Aruchi. Clinical trials on 40 individuals between the age group 20-50 years in both the sex were carried out. In Group A, 20 individuals were given Malati kashtha churna for Dantadhavana and in Group B, 20 individuals were given colgate powder for Dantadhavana, follow ups were taken on 7th, 15th, 30th and 45th (post treatment) days and observation was noted. Malati having Tikta, kasaya rasa and katu vipak and Ushna, snigdha guna. The Tikta, Kasaya Rasa helps in pacifying the Kapha Dosha while Ushna Guna help in pacifying the Vata Dosha, thereby removing the Doshas from the oral cavity and it increases taste recognizing power. 25% cases of Group A have shown good response, 55% shown moderate response, and 20 % shown mild response. In Group B, 15% have shown good response, 40% shown moderate response and 45% shown mild response. The Group A advocated Dantadhavana with Malati kashtha churna shown better result than those followed Colgate powder for Dantadhavana.
Keywords *Dantadhavana, Malati kashtha, Oral Hygiene*

1. Introduction

In Swasthavritta to maintain personal hygiene, Dinacharya and Rutucharya are elaborated. By following rules of Dinacharya we can take care of our indriya that is necessary organs and keep them clean so they can do their functions normally. Nasya, Karnapoorna, Anjan, Dantadhavana are some of activities described in Dinacharya for cleanliness of sensory organs.

As Mukha is one of the main nine openings of our body. It is beginning of important gastrointestinal system of our body. Mukha swasthya is very essential to remain healthy, because many of the infections start from the Mukha.

In modern life, however due to lack of time and negligence; Oral hygiene not properly maintained. In slum areas due to low hygiene, there are same problems. Hence, Dantadhavana Upakrama mentioned in Dinacharya can play important role in present situation.

2. Need of Study

2.1. Findings from Dentists' Survey

(Research conducted by Nielsen, in December 2011, amongst 823 Respondents and 201 Dentists conducted in Mumbai, Delhi, Kolkata & Bengaluru aged between 18 – 45 years of age)

Dental problems have been on the rise during this decade and have almost quadrupled in 3 years. 87% of the dentists said that oral hygiene problems are common among Indians. 83% of the dentists agree that in India, people immediately visit their doctor if affected by cold, fever, body ache / stomach ache but not for tooth ache. 87% of the dentists said that patients have no dental hygiene routine prior to their first visit to a dentist. 72% of the dentists said that people come for a check on oral hygiene after embarrassing gossip by colleagues. 92% of the dentists said that it is important to brush for at least 2 minutes twice a day and visit a dentist every 6 months for optimum oral health. These are alarming statistics in themselves.

Dantadhavana prevent us from Mukhadaurgandhya, Asyavairasya, Dantamala Dantamalinta and Aruchi [1]. One should clean his Danta by using these Dantapavana twice daily (morning & evening) by using these herbs- vata, asana, arka, khadir, karanja, karvir, irimed, apamarga, malti, and which have similar properties [2, 3]. Malati (jasminum officinale linn.) having Tikta, kasaya rasa and katu vipaka and Ushna virya, snigdha guna, and Mukharoganashaka, Dantadaurbalya hara karma [4]. The active extracts of the drug jasminine (benzyl acetate) which have anti septic action [5].

Hence present study "Efficacy of Malati kashtha churna for Dantadhavana" was undertaken to find out solution to have better "Mukha swasthya".

3. Materials and Methods

3.1. Drug: MALATI

- **Family:** Oleaceae- Olive family
- **Latin name:** *Jasminum officinale linn*

3.2. Pharmacodynamics [4]

- Rasa - Tikta, Kasaya
- Virya - Usana
- Vipaka - Katu
- Guna - Laghu, Snigdha, Mrudu

3.3. Preparation of Drug

- Identification, Authentication of Malati kastha was done at Department of botany, University of Pune, India.
- For convenience in today's fast lifestyle and to prevent injury to gums; Malati kastha churna was used instead of Malati kastha. Malati churna was prepared from dry Malati kastha, the finely powdered raw material was passed through sieve number 85 and particle size of churna was 180 µm, and used in dry form [6].

- Standardization of Malati kastha churna was done at Late Prin. B.V. Bhide Foundation, Pune India.

Figure 1: *Malati Kashtha*

Figure 2: *Churna of Malati Kashtha*

3.4. Study Design/Method

I) Details of Clinical Study

Clinical trials on 40 healthy individuals between the age group of 20-50 years of both the sex was carried out. 40 individuals were divided into two groups each containing 20 individuals.
Group A: 20 individuals were given Malati kastha churna for Dantadhavana.
Group B: 20 individuals were given Colgate powder for Dantadhavana.

II) Upkrama: Dantadhavana

Time: In morning & at night (after meal)
Quantity: 3 grams (Churna)

III) Procedure

Adhodantpurvakam - One should clean lower teeth first then upper teeth properly with help of finger (Resembling that of vertical style of cleaning teeth) [7].

IV) Period of study: 45 days

V) Parameters: Dantamala, Dantamalinta, Mukhadauryagandha, Asyavairasya, pH of saliva.

3.5. Procedure for Data Collection

A standard case paper regarding oral health with informed consent letter was prepared and observations were noted accordingly.

Follow Up

Both groups were examined time to time.

1st follow-up - on 7th day, 2nd follow-up - on 15th day

3rd follow-up - on 30th day, 4th follow-up - on 45th day (Post treatment)

3.6. Statement of Limitations

I) Inclusion Criteria

- Individuals with lakshanas – Asyavairasya, Dantamalinta, Mukhadaurgandhya & Dantamala were included.
- Individuals between the age group of 20-50 years were included.
- Individuals of both the sex were included.

II) Exclusion Criteria

- Contraindication for Dantadhavana [8]

  naaVadjaINa-vamaqauEvaasakasajvaraid-taI |
  taRYNaa##syapaak=nnao~aiSar:kNaa-mayaI ca tata\ || A.sa.saU. 3/19
- Individuals suffering stomatitis, oral cancer and major oral diseases, accidental dental injuries were excluded.
- Individuals suffering any systemic disease were excluded.

3.7. Parameter's Assessment

I) Dantamala (Debris)

Grade – 0	No debris or stain present
Grade – 1	Soft debris covering not more than one third of the tooth surface, or presence of extrinsic stains without other debris regardless of surface area covered
Grade – 2	Soft debris covering more than one third, but not more than two thirds, of the exposed tooth surface
Grade – 3	Soft debris covering more than two thirds of the exposed tooth surface

II) Dantamalinta (Plaque)

Grade – 0	No plaque
Grade – 1	A film of plaque adhering to the free gingival margin and adjacent area of the tooth. The plaque may be seen in situ only after application of disclosing solution or by using the probe on the tooth surface
Grade – 2	Moderate accumulations of soft deposits within gingival pockets seen by naked eyes
Grade – 3	Abundance of soft matter within the gingival pocket and/or on the tooth and gingival margin

III) Mukhadauryagandha (Freshness of Mouth)

Grade – 0	No odor present
Grade – 1	Rarely noticeable odor
Grade – 2	Clearly noticeable odors.
Grade – 3	Strong offensive odors

IV) pH of Saliva

Grade – 0	6 – 7 (Normal range)
Grade – 1	± 1 of normal range
Grade – 2	± 2 of normal range
Grade – 3	± 3 of normal range

V) Asyavairasya

Grade – 0	Proper taste perception, enjoys taste of the food
Grade – 1	often complains regarding the taste of food
Grade – 2	Shows disinterest towards food
Grade – 3	Often skips meal

VI) Oral Hygiene Index

OHI-S = Debris Index Score + Calculus Index Score

Grade – 0	0.1 - 1.2 score
Grade – 1	1.3 - 3.0 score
Grade – 2	3.1 - 6.0 score

VII) Criteria for Assessment of Overall Responses

Based on the changes in the signs and symptoms the cure rate was classified into

Good response	- Above 76 % relief in overall features
Moderate response	- 51%- 75% relief in overall features
Mild response	- 26%- 50% relief in overall feature
No relief	- Below 25% relief in overall features

3.8. Statistical Analysis

Data analysis consisted of two parts, first part to describe the characteristic of the study subjects by using descriptive methods viz. general points like age, sex, diet, prakruti, vyasan, etc. second part consisted of comparisons of pre treatment measurements of the outcome with that of post treatment measurements where we used inferential methods and statistics. Statistical analysis was done for the results using student t - test of significance.

3.9. Observation

I) Distribution According to Age

Out of 40 patients, 29 (72.5 %) were in the age group of 20-30 years, 4 (10%) were in the age group of 31-40 years, 7 (17.5 %) were in the age group of 41-50 years.

Table 1: *Showing Incidence of Age in Both Groups*

Age	Group A		Group B		Total	
	No	%	No	%	No	%
20-30	15	75 %	14	70 %	29	72.5 %
31-40	1	5 %	3	15 %	4	10 %
41-50	4	20 %	3	15 %	7	17.5 %

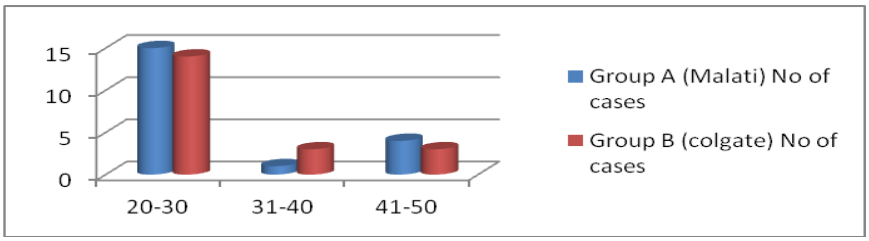

Chart Representation of Table 1

II) Distribution According To Sex

Table 2*: Showing Incidence of Sex in Both Groups*

Sex	Group A		Group B		Total	
	No of cases	%	No of cases	%	No of cases	%
Male	16	80%	16	80%	32	80%
Female	4	20%	4	20%	8	20%

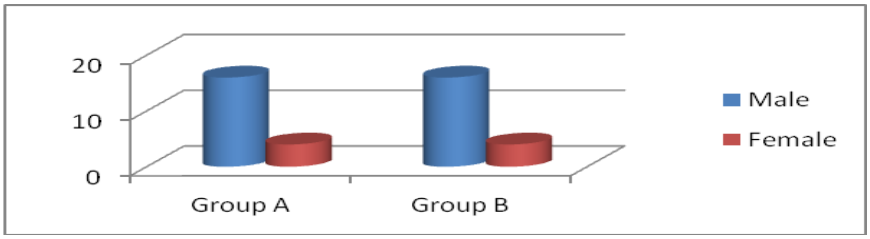

Chart Representation of Table 2

Out of 40 patients, 32 (80%) were male and 8 (20%) were females. In Group A, 16 (80%) patients were male and 4 (20%) patients were female. In Group B, 32 (80%) patients were male and 4 (20%) patients were female.

III) Distribution According to Prakruti

Table 3: *Showing Incidence of Prakruti in Both Groups*

Prakruti	Group A		Group B		Total	
	No	%	No	%	No	%
VP	4	20%	5	25%	9	22.5%
PK	3	15%	4	20%	7	17.5%
VK	4	20%	3	15%	7	17.5%
KP	2	10%	3	15%	5	12.5%
KV	3	15%	2	10%	5	12.5%
PV	4	20%	3	15%	7	17.5%

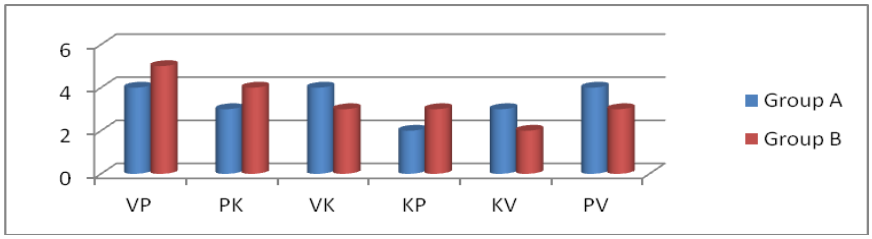

Chart Representation of Table 3

Prakruti wise distribution shows more patients 4 (20%) in Group A & 5(25%) in Group B were of Vata Pitta pradhan.

IV) Distribution According to Vyasan

Table 4: *Showing Incidence of Vyasan in Both Groups*

Vyasana	Group A		Group B		Total	
	No	%	No	%	No	%
Tea	12	60%	10	50%	22	55%
Smoking	2	10%	3	15%	5	12.5%
Tobacco	4	20%	5	25%	9	22.5%
Pan & supari,	3	15%	4	20%	7	17.5%

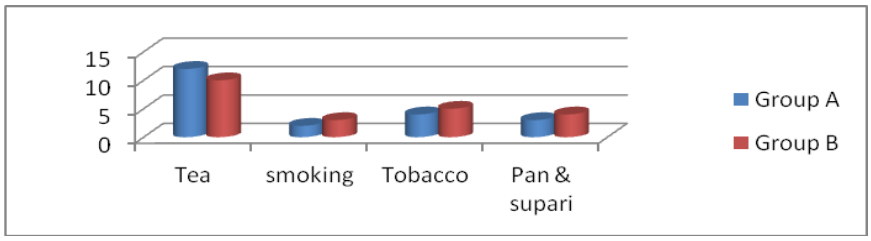

Chart Representation of Table 4

Out of 40 individuals, 22 (55%) had habits of tea and out of 40 individuals, 9 (22.5%) had habits of tobacco chewing.

V) Distribution According to Frequency of Cleaning

Table 5: *Showing Incidence of Frequency of Cleaning*

Frequency	Group A		Group B		Total	
	No of cases	%	No of cases	%	No of cases	%
Once	15	75%	14	70%	29	72.5%
Twice	5	25%	6	30%	11	27.5%

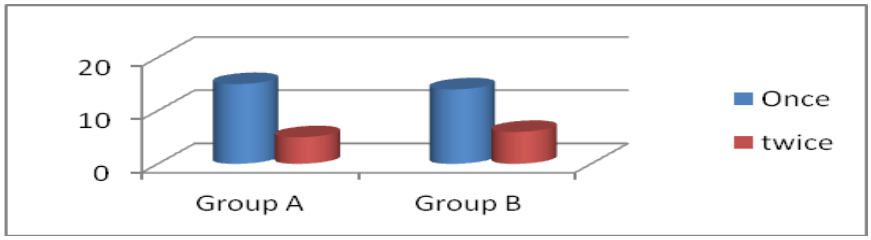

Chart Representation of Table 5

Out of 40 patients, 29 (72.5%) were cleaning their teeth once in a day and 11 (27.5%) were cleaning their teeth twice.

4. Results

4.1. Dantamala

Table 6: *Dantamala – Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	0.850	0.250	70.58 %	0.6803	3.943	2.093	0.0009
GROUP B	0.80	0.40	50 %	0.5026	3.559	2.093	0.0021

- Mean B.T in Group A was 0.850 that reduced to 0.250 where as in Group B mean B.T was 0.80 which was reduced to 0.40.
- Group A has shown 70.58% relief and Group B has shown 50% relief.

4.2. Mukhadaurgandhya

Table 7: *Mukhadaurgandhya – Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	1.1	0.35	68.18 %	0.7164	4.682	2.093	0.0002
GROUP B	0.8	0.35	56.26 %	0.6048	3.327	2.093	0.0035

- There were significant changes seen in both the groups at 5% level of significance since t values are greater than t table value in both group.
- P values are < 0.05 in both groups.

Comparison between group A and Group B

- Mean B.T in Group A was 1.1 that reduced to 0.35 where as in Group B mean B.T was 0.8 which was reduced to 0.35.
- Group a shown 68.18% relief, Group B shown 56.26 % relief.

4.3. Dantamalinta

Table 8: *Dantamalinta – Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	0.95	0.250	73.68 %	0.8013	3.907	2.093	0.0009
GROUP B	0.75	0.350	53.34 %	0.5982	2.99	2.093	0.0075

- There were significant changes seen in both the groups at 5% level of significance since t values are greater than t table values in both group.
- P values are < 0.05 in both groups.

Comparison between Group A and Group B

- Mean B.T in Group A was 0.95 that reduced to 0.25 where as in Group B mean B.T was 0.75 which was reduced to 0.35.
- Group a shown 73.68% relief, Group B shown 53.34% relief.

4.4. Asyavairasyata

Table 9: *Asyavairasyata – Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	1.55	0.35	77.42 %	0.7678	6.990	2.093	< 0.0001
GROUP B	1.3	0.40	69.23 %	0.6407	6.282	2.093	< 0.0001

- There were significant changes seen in both the groups at 5% level of significance since t values are greater than t table values in both group.
- P values are < 0.05 in both groups.

Comparison between Group A and Group B

- Mean B.T in Group A was 1.55 that reduced to 0.35 where as in Group B mean B.T was 1.3 which was reduced to 0.40.
- Group A shown 77.42 % relief, Group B shown 69.23 % relief.

4.5. pH of saliva

Table 10: *pH of Saliva – Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	1.10	0.700	36 %	0.5026	3.559	2.093	< 0.0001
GROUP B	1.050	0.70	33.33 %	0.4894	3.199	2.093	0.0047

- There were significant changes seen in both the groups at 5% level of significance since t values are greater than t table values in both group.
- P values are < 0.05 in both groups.

Comparison between Group A and Group B

- Mean B.T in Group A was 1.10 that reduced to 0.70 whereas in Group B mean B.T was 1.05 which was reduced to 0.70.
- Group A shown 36% relief, Group B shown 33.33% relief.

4.6. Oral Hygiene Index

Table 11: *Oral Hygiene Index- Comparison of Group A and B*

	Mean (B.T.)	Mean (A.T.)	% Relief	S. D. of Difference	T Value	T Table Value	P Value
GROUP A	1.350	0.350	74.08%	0.5620	7.958	2.093	< 0.0001
GROUP B	1.0	0.35	65%	0.5026	5.339	2.093	0.0047

- There were significant changes seen in both the groups at 5% level of significance since t values are greater than t table values in both group.
- P values are < 0.05 in both groups.

Comparison between Group A and Group B

- Mean B.T in Group A was 1.35 that reduced to 0.35 where as in Group B mean B.T was 1.0 which was reduced to 0.35
- Group A shown 74.08% result, Group B shown 65% relief.

5. Discussion

5.1. On Observation

Age

- In this study more number of cases (72.5%) was observed under the age group of 20-30 years.
- The incidence of improper dental hygiene was seen more in Adolescents, may be due to negligence or lack of time regarding oral hygiene.

Sex

- As for sex is concerned in present study, it is observed that 80% of the individuals were male and 20% of the individuals were female.
- This may be because of the increased number of male in the population or may be the males have smoking and tobacco chewing habits more than females.

Prakruti

- Prakruti wise distribution shows 9 individuals were of Vata kapha Pradhan Prakruti while 7 were of Kapha vata Pradhana Prakruti.
- As Vata is predominant in teeth and Kapha also being Sthana in oral cavity vitiation of both these Doshas leads to various diseases of oral cavity.

Vyasan

- The present study shows, 22(55%) individuals had habit of tea, 9 (22.5%) had tobacco chewing habit.
- After intake of such items if mouth is not washed properly, there will be growth of bacteria S. Mutans which are responsible for plaque accumulation.

Frequency of Cleaning

- Observation shows 72.5% (29) individuals clean their teeth only once in a day and 11(27.5%) individuals clean their teeth twice in a day.
- These are alarming figures in themselves.
- It shows people are less concerned about oral health.

5.2. Discussion on Results

Dantamala

- Group A has shown 70.58 % relief and Group B has shown 50% relief.
- Since Malati having tikta & kasaya rasa, Tikshna guna and Tridosha samshanana karma it reduces dental debris –Dantamala.
- The rubbing of the churna i.e. procedure of brushing helped in removing the food debris stuck in the teeth.

Mukhadaurgandhya

- Group A has shown 68.18 % relief and Group B has shown 56.26% relief.
- Due to Tikta, kasaya rasa and Ushna Virya and by rubbing the churna on teeth Chhedan of Kapha and Mukha shuddhi occurs.
- The active extracts of the drug jasminine (benzyl acetate) helps in freshens up the breath, protects the gum from other infections.

Dantamalinta

- Group A has shown 73.68 % relief and Group B has shown 53.34 % relief.
- Malati having Tiksna properties helped in reducing the dental plaque.
- The rubbing of the churna i.e. procedure of brushing remove food particles and plaque and lead to regeneration of healthy gingival tissues.

Asyavairasya

- Group A has shown 77.42 % relief and Group B has shown 69.23 % relief.
- The Tikta, Kasaya Rasa helps in Pacifying the kapha Dosha thereby removing the Doshas from the oral cavity and it increases taste recognizing power

pH of Saliva

- Group A has shown 36 % relief and Group B has shown 33.33 % relief.
- While comparing Group A & B, Group A is equally significant to that of Group B in reducing pH to normal level

Oral Hygiene Index

- Group A has shown 74.08 % improvement and Group B has shown 65 % improvement.
- Better results were seen in the Group A in maintenance of oral hygiene and removing of Danta and Mukhagata Malas.
- The Tikta, Kasaya Rasa and Ushna virya helps in Pacifying the kapha - Vata Dosha, thereby removing the Doshas from the oral cavity.
- The Mukharoganashak & Dantadaurbalya hara action of Malati helps in maintaining the Hygie ne of the oral cavity

Overall Effect

- 25% cases of Group A have shown good response, 55% shown moderate response, and 20 % shown mild response.
- In Group B, 15% have shown good response, 40 % shown moderate response and 45% shown mild response.
- The Group A advocated Dantadhavana with Malati kashtha churna shown better result than those followed Colgate powder for Dantadhavana.
- This may be because rubbing of powder with Malati kashtha churna which have Tikta, Kasaya Rasa, Ushna Virya.

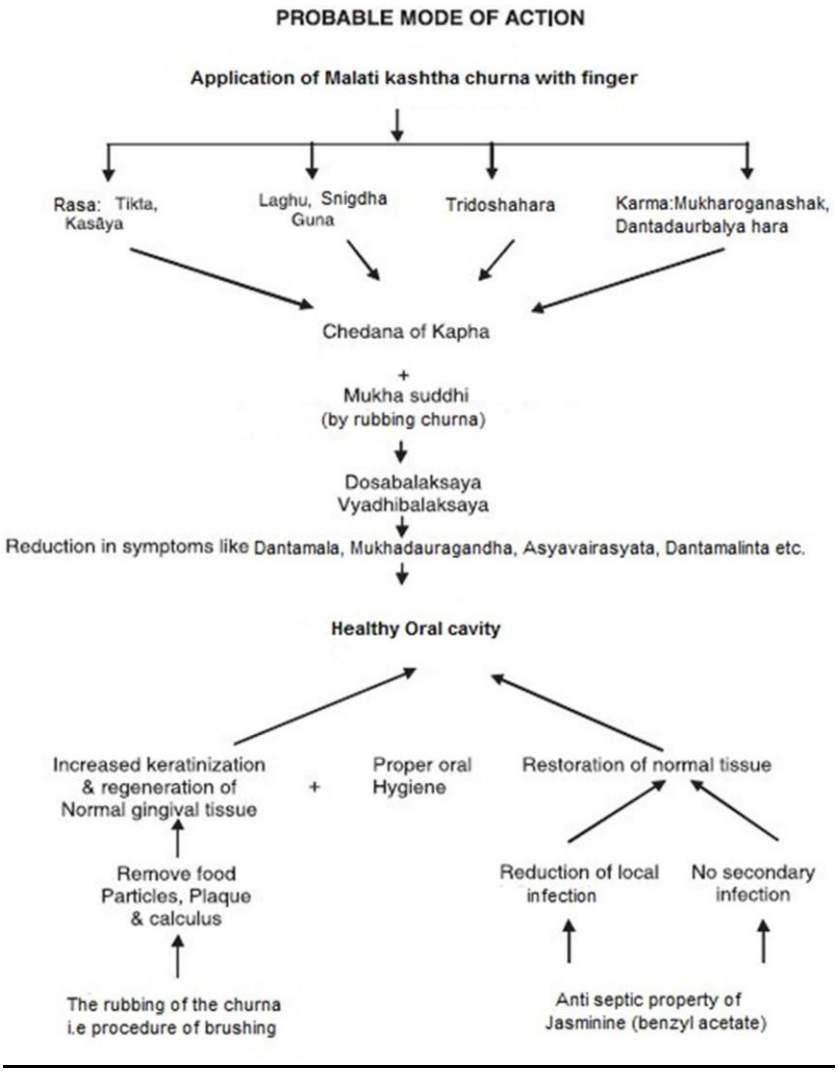

***Figure 3**: Probable Mode of Action*

6. Conclusion

- Dantadhavana is one of the important procedures of Dinacharya for maintaining the health of oral cavity.
- Dantadhavana also gives strength to the gingiva, tooth and other structures in the oral cavity.
- Malati having tikta, kasaya rasa and katu vipak and Ushna, snigdha guna.
- The Tikta, Kasaya Rasa helps in Pacifying the kapha Dosha while Ushna Guna help in pacifying the Vata Dosha, thereby removing the Doshas from the oral cavity and it increases taste recognizing power.
- The active extracts of the drug jasminine (benzyl acetate) helps in freshens up the breath, protects the gum from other infections.
- The rubbing of the churna i.e. procedure of brushing helped in removing the food debris stuck in the teeth.
- The Group A advocated Dantadhavana with Malati kashtha churna shown better result than those followed Colgate powder for Dantadhavana.
- Post Treatment follow up showed reduction in
  - Dantamala - Mukhadaurgandhya
  - Dantamalinta - Asyavairasya

- Hence from the study it is concluded that, Dantadhavana is an important upakrama of Dincharya mentioned in Samhitas which should be followed regularly, in order to prevent Mukharogas and to maintain oral hygiene.

Limitation of Study

- Study has been restricted to symptoms like Dantamala, Dantamalinta, Asyavairasya, Mukhadaurgandhya and pH of saliva.
- Limited sample size.

References

[1] Tripathi B, Hindi Commentator,*Charak Samhita of Charak & Drudhabala*, Sootra Sthana; Matrashitiya ADHYAy: Chapter 5, Verse 72. Varanasi: Chaukhamba Surbharati Prakashan, 2004; 130.

[2] Tripathi B, Hindi Commentator,*Charak Samhita of Charak & Drudhabala,* Sootra Sthana; Matrashitiya Adhyay: Chapter 5, Verse 72. Varanasi: Chaukhamba Surbharati Prakashan, 2004; 131.

[3] Tripathi R, Editor, *Ashtanga Samgraha of Vagbhata, Sootra Sthana*; Dincharya: Chapter 3, Verse 14. Varanasi: Chaukhamba Sanskrit Sansthan, 2003; 39.

[4] Mishra B, Hindi Commentator, 11th Ed. *Bhavprakash Nighantu* of Bhav Mishra, Pushpavarga: Verse 28. Varanasi: Chaukhamba Sanskrit bhawan, 2007; 491.

[5] Priya Joy. *Anti-Bacterial Activity Studies of Jasminum Grandiflorum and Jasminum Sambac.* Ethnobotanical Leaflets. 2008. 12; 481-483.

[6] Lohar D.R., *Protocol for Testing Ayurvedic, Siddha & Unani Medicines*. Department of Ayush. Pharmacopoeial laboratory for Indian medicine, Ghaziabad.

[7] Tripathi R, Editor, *Ashtanga Samgraha* of Vagbhata, Sootra Sthana; Dincharya: Chapter 3, Verse 23. Varanasi: Chaukhamba Sanskrit Sansthan, 2003; 41.

[8] Tripathi R, Editor, *Ashtanga Samgraha* of Vagbhata, Sootra Sthana; Dincharya: Chapter 3, Verse 19. Varanasi: Chaukhamba Sanskrit Sansthan, 2003; 40.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 30-32, Article ID Med-61
ISSN: 2320 – 0251

Case Report | Open Access

Use of Calcurosin™ In Renal Calculi Management: A Case Report

Lalit Chaudhry[1] and Chintan R. Maniar[2]

[1]Ayurmax Multi Specialty Hospital, Dehradun, Uttarakhand, India
[2]Ban Labs Ltd., Rajkot, Gujarat, India

Correspondence should be addressed to Chintan R. Maniar, productmanagement@banlab.com

Publication Date: 4 May 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-61

Abstract Management of renal calculi may prove to be a daunting task for physicians in certain clinical conditions such as bleeding complications, uncontrolled Blood Pressure, urinary infection, age factor, etc., these conditions also requires careful consideration. Most of the Indian patient prefers to give it a try to alternative medicine before undergoing painful surgery. Following case study shows an 83 year old male patient with three calculi in kidneys was treated with Calcurosin™ (Proprietary Ayurvedic Medicine) to avoid surgery, patient has shown promising result in subsequent investigations and at the end patient got free from renal calculi without surgical procedure.
Keywords *Avoid Lithotripsy, Calculi Management and Kidney Stone*

Background An 83 year old man was presented with pain in abdomen i.e. right and left abdomen, with burning micturation and urinary sensation.

Investigation Ultrasonography of abdomen and pelvic was prescribed and carried out.

Diagnosis Right Kidney – 13 mm renal calculus at mid pole & 10 mm renal calculus at lower urethra. Left Kidney – 11 mm renal calculus at upper urethra with hydronephrosis.

Management Immediately patient was prescribed with Calcurosin™ (Proprietary Ayurvedic Medicine) capsule and syrup for 1 month along with Norfloxacin 400 mg and Omeprazole 20 mg for 5 days. Dicyclomine hydrochloride 10 mg + Mefenamic acid 250 mg & Diclofenac 50 mg + Paracetamol 500 mg as needed for pain.

Follow-Up Evaluation a) Ultrasonography performed after four months suggested following findings: Right Kidney – 7.8 mm calculus at the upper calyx Left Kidney – No calculus seen.
b) Ultrasonography performed after six month from starting of treatment shown absence of any calculus.

1. Introduction

Urolithiasis continues to be a frequent cause of presentation to hospital. By age of 70 years, approximately 11% of men and 5.6% of women will have experienced a symptomatic kidney stone, and about 40% to 50% of initial stone formers will have a recurrence within 5 years [1 to 3]. The risk of recurrence within 20 years is as high as 75%. In addition to causing severe pain (renal colic) resulting in emergency room visits and sometimes hospitalization, stone formation is associated with increased rates of chronic kidney disease and hypertension [4, 5].

Despite enormous technological advances in minimally invasive therapy like extracorporeal shock wave lithotripsy (ESWL), percutaneous endourological techniques, and ureteroscopy over the past 20 years, the management of urinary calculi remains a challenge. Few conditions require the careful consideration of so many clinical factors in developing a treatment plan. Selecting appropriate treatment requires thorough evaluation of patient factors and it is not viable to perform lithotripsy in all the patients. Hence, it is needed to look for the alternative & safe treatment to avoid operational procedure.

2. Discussion

Calcurosin capsule is an authentic ayurvedic formula with combination of five herbal ingredients, usually prescribed one to two capsule(s) three times a day as adult dose. One of the ingredient *Hazrool Yahood Bhasma* is a rich source of Magnesium hydroxide [$Mg(OH)_2$] which react with Calcium Oxalate Calculus and forms Magnesium oxalate soluble complex [6, 7]. This process helps disintegration of large calculi into the smaller particles. *Raphanus sativus* present in capsule and syrup is useful in urinary complaints, dysuria and strangury [8]. *Chandra Prabha* is useful in retention of urine, polyuria, calculi, burning micturition, hematuria & urinary tract infection [9]. *Eladi Churna* significantly works on dysuria [10]. Trivikram Ras has excellent work in disintegration of any type of calculi [11]. Tankankhar has diuretic and local sedative/analgesic effect. As a solvent it is given in uric acid diathesis [12].

Calcurosin syrup is scientifically designed and clinically demonstrated formula which acts as natural alkalizer and pH regulator, usually prescribed two to three teaspoons three times a day. *Navsar* (Ammonium Chloride) present in it acts as diuretic, [13] ammonium chloride found to be reduced the incidence of calculi significantly [14]. *Nimbu ka Sat* (Citric Acid) - Urinary citrate inhibits calcium oxalate and phosphate crystallization, aggregation and agglomeration and low urine citrate levels can predispose to calcium oxalate nephrolithiasis [15]. *Yavakshar* (Potassium Carbonate) is diuretic and resolvent, it is use to remove obstruction in passages, and in colic, urinary diseases, uric acid diathesis, chronic dysuria and in painful micturition [16]. Smaller particles generated by the capsules can be flushed out from the body with help of diuretic action of syrup [17].

3. Conclusion

Stones are not uncommon in Indian population. The incidence of renal stone disease appears to be increasing. Preserving renal function, and attaining a stone-free state, while minimizing patient discomfort and disability. Careful consideration of a variety of clinical factors and treatment option from alternative science should be allowed for a successful outcome with minimal morbidity. In this case report Calcurosin™ is found to be a promising treatment which is backed by the modern scientific facts and evidences.

References

[1] Saigal C.S., et al. *Direct and Indirect Costs of Nephrolithiasis in an Employed Population: Opportunity for Disease Management?* Kidney Int. 2005. 68; 1808-1814.

[2] Stamatelou K.K., et al. *Time Trends in Reported Prevalence of Kidney Stones in the United States: 1976-1994.* Kidney Int. 2003. 63; 1817-1823.

[3] Worcester E.M., et al. *Clinical Practice. Calcium Kidney Stones*. N Engl J Med. 2010; 363; 954-963.

[4] Rule A.D., et al. *Kidney Stones and the Risk for Chronic Kidney Disease*. Clin J Am Soc Nephrol. 2009. 4; 804-811.

[5] Madore F., et al. *Nephrolithiasis and Risk of Hypertension*. Am J Hypertens. 1998. 11; 46-53.

[6] Krishan Gopal, 1947*: Rastantra Sar Siddha Prayog Sangraha*, Vol. 1, 653.

[7] Johansson G., et al. *Effects of Magnesium Hydroxide in Renal Stone Disease*. Journal of the American College of Nutrition, 1982. 1 (2) 179-85.

[8] CCRAS, 2002: *Data Base on Medicinal Plant Used in Ayurveda*. Vol. 4, 443-445.

[9] Krishan Gopal, 1947*: Rastantrasar & Siddha Prayog Sangraha*. Vol. 1, 644-649.

[10] Ayurvedic Pharmacopoeia Committee, India. *The Ayurvedic Formulary of India, Part 1*, 2nd Ed. MHFW Gov. of India, 107.

[11] Krishan Gopal, 1947*: Rastantrasar & Siddha Prayog Sangraha*. Vol. 1, 467.

[12] Dr. K.M. Nadkarni, 1994: *Indian Materia Medica*. Vol. 2, Bombay Popular Prakashan, 103-107.

[13] Dr. K.M. Nadkarni, 1994: *Indian Materia Medica*. Vol. 2, Bombay Popular Prakashan, 12.

[14] H.R. Crookshank. *Effect of Ammonium Salts on the Production of Ovine Urinary Calculi*. J. Anim Sci. 1970. 30; 1002-1004.

[15] Nicar M.J., et al. *Use of Potassium Citrate as Potassium Supplement during Thiazide Therapy of Calcium Nephrolithiasis*. Journal of Urology 1984. 131 (3) 430-3.

[16] Dr. K.M. Nadkarni, 1994: *Indian Materia Medica*. Vol. 2, Bombay Popular Prakashan, 89.

[17] Upadhyay L., et al. *Effect of Calcurosin (An Indigenous Drug) in the Management of Urolithiasis*. The Antiseptic. 2003. 101 (9) 353-356.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 75-82, Article ID Med-73
ISSN: 2320 – 0251

Review Article | Open Access

Vaidyajivanam: Contributions of Lolimbaraja to Ayurvedic Materia Medica– A Review

K. Nishteswar

Department of Dravyaguna, IPGT & RA, Gujarat Ayurved University, Jamnagar, Gujarat, India

Correspondence should be addressed to K. Nishteswar, nishteswar@yahoo.co.in

Publication Date: 2 July 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-73

Abstract Lolimbaraja was the author of Vaidyajivanam popularly known as Lolimbarajeeyam. The author has composed the entire text in a poetic style. This work may be considered as a best piece of Ayurvedic literature consisting of single and simple herbal recipes for common ailments. Though herbal formulations dominated the therapeutics, the author also quoted certain Rasayogas consisting of metals and minerals. In total 37 single drug recipes were documented. The materia medica discussed by Lolimbaraja consists of 153 drugs (130 Herbal drugs, 3 Animal products and 20 Metals and Minerals). The period of Lolimbarajeeyam appears to be belonging to 16^{th} – 17^{th} century. A critical analysis of formulations mentioned in the text clearly indicate that the author consulted many a works of Ayurveda and compiled the most useful recipes which are indicated for the management of the common ailments.

Keywords *Vaidyajivanam, Lolimbaraja, Ayurveda, Herbal formulation, Rasayogas*

1. Introduction

Lolimbaraja compiled Vaidyajivanam which is considered as a useful handbook of Ayurvedic therapeutics. The entire text was divided into five chapter quoted by name ‘Vilasa’. The first chapter was allotted for antipyretic drugs and last chapter dealt with aphrodisiacs. Rest of the three chapters dealt with several conditions viz. Atisara (Diarrhea), Kasa (Bronchitis), Swasa (Breathlessness including Asthma), Amavata (Rheumatoid arthritis), Kamala (Jaundice), Stree roga (gynecological diseases), Vrana (wound), Amlapitta (gastritis), Hridroga (Heart disease), Asmari (Urolithiasis), Siroroga (diseases of head), Sopha (oedema) etc. List of prime drugs (Agraushadhi) for certain conditions was included in the last chapter [1].

Author himself mentioned that he was the son of Divakara. In most of the verses he addressed wife Murasa, popularly known as Ratnakala. Apart from Vaidyajivanam, the author has written Vaidyaavatamsa, Chamatkarachintamani and two non-medical works namely Harivilasa and Ratnakalacharita [2].

Out of five commentaries 'Dipika' commentary written by Rudrabhatta has become very popular as it is evident from the number of manuscripts of it available in different libraries. Acharya Priyavrat Sharma has edited this book based on the manuscripts available in the library of Poona and BHU.

2. Period

Trimallabhatta [3] (17AD) has quoted Lolimbarajeeyam in his work (Yogatarangini). Another text namely Yogaratnakara [4] (17th AD) has also quoted this work. Historians placed the work Harivilasa in 11th century AD and opined that the author of Harivilasa and Vaidyajivanam are two different persons with same name. Opium, a drug which was introduced after 8th century, was quoted in the management of Atisara. Parpati kalpana was designed by Chakrapani [5] (11th century) one of the famous commentators of Charaka Samhita. Basing on these evidences and descriptions of certain Rasayogas the period of Lolimbaraja should be placed after Chakrapani i.e. 11th century AD. The external evidence clearly indicates that the work was quoted by Trimallabhatt (17th AD). It appears that the period of Lolimbaraja may be placed after 11th century and before 17th century i.e. 11th AD – 17th AD.

3. Place

The internal evidence clearly indicates that he was belonging to the place where Reva [6] (Narmada) river was flowing. Some authors opine that he belongs to Maharashtra [7] as the author has mentioned Marathi vernacular names for certain drugs viz., Ringini for Kantakari (Chamatkarachintamani) [8] and Kanthabharana for Karela (Vaidhyavatamsa).

4. Content of Vaidyajeevanam

The subject matter was described in five chapters and the numbers of slokas are as follows:

1st chapter – 82
2nd chapter – 29
3rd chapter – 47
4th chapter – 45
5th chapter – 24
Total - 227

Table 1: *Herbal Drugs Mentioned in Lolimbarajeeyam*

Sr. No.	Name of Drugs	Latin Name
1.	Adraka	*Zingiber officinale* Roscoe
2.	Agaru	*Aquilaria agallocha* Roxb.
3.	Agastya patra	*Sesbania grandiflora* Linn.
4.	Agnimantha	*Premna obtusifolia* R.Br.
5.	Ahiphena	*Papaver somniferum* Linn
6.	Ajagandha	*Gynandropis gynandra*
7.	Ajmoda	*Apium graveolens* Linn.
8.	Amalaki	*Emblica officinalis* Gaertn.
9.	Amlavetasa	*Garcinia pedunculata* Roxb. ex
10.	Amra	*Mangifera indica* Linn.
11.	Anantamoola	*Hemidesmus indicus* (Linn.) R.Br. ex Schult.
12.	Aragvadha	*Cassia fistula* Linn.
13.	Arjuna	*Terminalia arjuna* (Roxb. Ex DC.) Wt.et Arn.

14.	Arka	*Calotropis gigantea* (Linn.) R.Br.
15.	Ashwattha	*Ficus religiosa* Linn.
16.	Ativisha	*Aconitum heterophyllum* Wall.ex Royle
17.	Babbola twak	*Acacia nilotica* (Linn.) Wild. Ex Del.
18.	Bakula	*Mimusops elengi* Linn.
19.	Bala	*Sida acuta* Burm f.
20.	Balaka	*Pavonia odorata* Wild.
21.	Bhallataka	*Semecarpus anacardium* Linn.f.
22.	Bharangi	*Clerodendrum serratum* (Linn.) Moon
23.	Bhringaraja	*Eclipta alba* (Linn.) Hassk.
24.	Bhumyamalaki	*Phyllanthus amarus* Schum. Et Thonn
25.	Bhunimba	*Andrographis paniculata* (Burm.f.) Wall.ex Nees
26.	Bilva	*Aegle marmelos* (Linn.) Corr.
27.	Bruhati	*Solanum indicum* Linn.
28.	Chakramarda	*Cassia tora* Linn.
29.	Chandana	*Santalum album* Linn.
30.	Chavya	*Piper brachystachyum* Wall.
31.	Chirbilva	*Holoptelea integrifolia* (Roxb.) Planch.
32.	Chitraka	*Plumbago zeylanica* Linn.
33.	Chakshushya	*Cassia absus* Linn.
34.	Dadima	*Punica granatum* Linn.
35.	Danti	*Baliospermum montanum* (Wild.) Muell. –Arg.
36.	Daruharidra	*Berberis aristata* Roxb. Ex DC.
37.	Devdaru	*Cedrus deodara* (Roxb. Ex D.Don) G.Don
38.	Dhanvyasa	*Fagonia cretica* Linn.
39.	Dhanyaka	*Coriandrum sativum* Linn.
40.	Dhataki pushpa	*Woodfordia fruticosa* (Linn.) Kurz
41.	Dhattura beeja	*Datura metel* Linn.
42.	Draksha	*Vitis vinifera* Linn.
43.	Duralabha	*Alhegi camelorum* Fisck.
44.	Ela	*Elettaria cardamomum* (Linn.) Maton
45.	Eranda	*Ricinus communis* Linn.
46.	Gandha truna	*Cymbopogon citrates* (DC.) Stapf
47.	Gokshura	*Tribulus terrestris* Linn.
48.	Guduchi	*Tinospora cordifolia* (Wild.) Miers ex Hook. f.
49.	Guggulu	*Commiphora mukul* (Hook. ex Stocks) Engl.
50.	Gunja	*Abrus precatorius* Linn.
51.	Haridra	*Curcuma longa* Linn.
52.	Haritaki	*Terminalia chebula* Retz.
53.	Hingu	*Ferula foetida* Regel
54.	Indravaruni	*Citrullus colocynthis* (Linn.) Schrad.
55.	Indrayava	Seed of *Holarrhena antidysentrica* Wall. Ex A. DC.
56.	Ingudi	*Balanites aegyptiaca* (Linn.) Delile
57.	Jambu	*Syzygium cumini* (Linn.) Skeels
58.	Jati	*Jasminum grandiflorum* Linn.
59.	Jatiphala	*Myristica fragrans* Houtt.
60.	Jeemutaka	*Luffa echinata* Roxb.
61.	Jeeraka	*Cuminum cyminum* Linn.
62.	Kantakari	*Solanum surattense* Burm.f.
63.	Kapikachhu	*Mucuna pruriens* (Linn.) DC
64.	Karakatshringi	*Pistacia integerrima* Stewart ex Brandis
65.	Karpoora	*Cinnamomum camphora* (Linn.) Nees et Eberm.
66.	Kasha	*Saccharum spontaneum* Linn.
67.	Katphala	*Myrica esculenta* Buch.-Ham.

68.	Katuki	*Picrorhiza kurroa* Royle ex Benth.
69.	Katvanga	*Oroxylum indicum* (Linn.) Vent.
70.	Khadira	*Acacia catechu* (Linn. f.) Wild.
71.	Kharjoora	*Phoenix dactylifera* Linn.
72.	Kiratatikta	*Swertia chirayita* (Roxb. Ex Flem.) Karsten
73.	Kupilu	*Strychnos nuxvomica* Linn.
74.	Kusha	*Desmostachya bipinnata* (Linn.) Stapf
75.	Kushtha	*Saussurea costus* (Falc.) Lipschitz
76.	Kutaja	*Holarrhena antidysentrica* Wall. Ex A. DC.
77.	Lavanga	*Syzygium aromaticum* (Linn.) Merril et Perry
78.	Lodhra	*Symplocos racemosa* Roxb.
79.	Manjistha	*Rubia cordifolia* Linn.
80.	Maricha	*Piper nigrum* Linn.
81.	Matulunga	*Citrus medica* Linn.
82.	Meghanada moola	*Amaranthus spinosus* Linn.
83.	Mishri	Sugar
84.	Moorva	*Marsdenia tenacissima* (Roxb.) Moon
85.	Musta	*Cyperus rotundus* Linn.
86.	Nagvalli	*Piper betel* Linn.
87.	Nimba	*Azadirachta indica* A Juss
88.	Nirgundi	*Vitex negundo* Linn.
89.	Padmaka	*Prunus cerasoides* D. Don
90.	Parpata	*Fumaria parviflora* Lam.
91.	Pashanbheda	*Bergenia ciliata* (Haw.) Sternb.
92.	Patha	*Cissampelos pareira* Linn.
93.	Patola	*Trichosanthes dioica* Roxb.
94.	Pippali	*Piper longum* Linn.
95.	Pippali moola	Root of *Piper longum* Linn.
96.	Prishnaparni	*Uraria picta* Desv.
97.	Priyangu	*Callicarpa macrophylla* Vahl
98.	Punarnava	*Boerhaavia diffusa* Linn.
99.	Pushkara moola	*Inula racemosa* Hook. f.
100.	Rakta chandana	*Pterocarpus santalinus* Linn. f.
101.	Rasna	*Pluchea lanceolata* Oliver et Hiern
102.	Rasona	*Allium sativum* Linn.
103.	Sariva	*Hemidesmus indicus* (Linn.) R.Br. ex Schult.
104.	Sarshapa taila	*Brassica nigra* Linn.
105.	Shalmali niryasa	*Bombax ceiba* Linn.
106.	Shalaparni	*Desmodium gangeticum* (Linn.) DC.
107.	Sharapunkha	*Tephrosia purpurea* (Linn.) Pers.
108.	Shathi	*Hedychium spicatum* Buch.-Ham. Ex Smith
109.	Shatapushpa	*Peucedanum graveolens* Benth. Et Hook.f.
110.	Shigru	*Moringa oleifera* Lamk.
111.	Shunthi	*Zingiber officinale* Rosc.
112.	Snuhi	*Euphorbia neriifolia* Linn.
113.	Tila	*Sesamum indicum* Linn.
114.	Trayamana	*Gentiana kurroo* Royle
115.	Trivrit	*Operculina turpethum* (Linn.) Silva Manso
116.	Tulasi	*Ocimum sanctum* Linn.
117.	Udichya	*Pavonia odorata* Wild.
118.	Udumbara	*Ficus racemosa* Linn.
119.	Ushira	*Vetiveria zizanioides* (Linn.) Nash
120.	Vacha	*Acorus calamus* Linn.
121.	Vanshalochana	*Bambusa arundinacia* Wild.

122.	Varuna	*Crateva nurvala* Buch.-Ham.
123.	Vasa	*Adhathoda vasica* Nees.
124.	Vatsanabha	*Aconitum ferox* Wall. ex Ser.
125.	Vibhitaki	*Terminalia belerica* Roxb.
126.	Vidanga	*Embelia ribes* Burm.
127.	Vidari	*Pueraria tuberose* DC.
128.	Vrukshamla	*Garcenia indica* (Thouars) Choisy
129.	Yashtimadhu	*Glycyrrhiza glabra* Linn.
130.	Yavani	*Trachyspermum ammi* (Linn.) Sprague

Table 2: *Animal Products Mentioned in Lolimbarajeeyam*

Sr. No.	Animal Products	English Name
1.	Ghrita	Clarified butter
2.	Madhu	Honey
3.	Moma	Bee-wax

Table 3: *Metals and Minerals Mentioned in Lolimbarajeeyam*

Sr. No.	Drugs	English Name
1.	Abhraka	Mica
2.	Louha	*Ferrum* (Iron)
3.	Parada	*Hydragyrum* (Mercury)
4.	Gandhaka	Sulphur
5.	Tamra	*Cuprum*
6.	Manahshila	Realgar
7.	Kasisa	Iron sulphate
8.	Haritala	Orpiment
9.	Swarna bhasma	*Aurum*
10.	Sindoora	Red oxide of lead
11.	Kshara dvya (Yava and Swarjika Kshara)	Alkalis of barley and sodium bicarbonate
12.	Tankana	Borax
13.	Praval	Coral
14.	Lavan panchaka	Five types of Salts
15.	Kharpara	Zinc oxide

Table 4: *Single Drug Formulations Mentioned by Lolimbaraja in Vaidyajeevanam*

Sr. No.	Name of Drugs	Latin Name	Indication/Action
1	Parpataka	*Fumaria parviflora* Lam.	Pittajajwara
2	Nimba (external application of leaf)	*Azadirachta indica* A Juss	Daha, Murcha
3	Chandana (external application)	*Santalum album* Linn.	Daha Pittaja Prameha, Raktapitta (internal)
4	Dhanyaka	*Coriandrum sativum* Linn.	Daha (internal)
5	Matulunga	*Citrus medica* Linn.	Aruchi
6	Pippali	*Piper longum* Linn.	Jirnajwara, vishamajwara, Naktandhya
7	Hingu (Nasal administration)	*Ferula northax* Bioss	Chaturthika jwara
8	Agastya (leaf)	*Sesbania grandiflora* Linn.	Chaturthika jwara
9	Rasona	*Allium sativum* Linn.	Vishamajwara
10	Haritaki (with madhu)	*Terminalia chebula* Retz	Vishamajwara

11	Jiraka (with guda)	*Cuminum cyminum* Linn.	Vishamajwara
12	Meghanada (external application of leaf)	*Amaranthus spinosus* Linn.	Vishamajwara
13	Bilva	*Aegle marmelos* Linn. Conr	Atisara, Shoola
14	Haridra	*Curcuma longa* Linn.	Grahani
15	Vibhitaka	*Terminalia belerica* Roxb.	Kasa, Swasa
16	Sunthi (Decoction) or Adraka (juice)	*Zingiber officinale* Rosc.	Peenasa, Hridroga, kasa, Swasa, Agnimadya, kamala
17	Sarsapa (oil)	*Brassica campestris* Linn.	Swasa
18	Vasa (Juice or decoction)	*Adhathoda vasica* Nees.	Kasa, Kshaya, Raktapitta
19	Chakshushya	*Cassia absus* Linn.	Raktanetra
20	Sigru (Patra) eye drops	*Moringa pterygosperma* Gaertn.	Netraroga
21	Devadali (Fruit- Nasal drops)	*Luffa echinata* Roxb.	Kamala
22	Uttarani (Root- local application)	*Pergularia extensa* N. E. Br.	Yonishoola
23	Indravaruni (Root- local application)	*Citrullus colocynthis* Scharad.	Anartava, Garbhapataka (abortifacient)
24	Guduchi	*Tinospora cordifolia* willd.	Prameha, Vatarakta, Kaphaja vyadhi
25	Arjuna	*Terminalia arjuna* (Roxb.) W&A	Hridroga
26	Vakula	*Mimusops elengi* Linn.	Chaladanta
27	Duralabha	*Alhegi camelorum* Fisck.	Bhrama
28	Ingudi	*Balanitis aegyptiaca* (Linn.) Del.	Mukhakantikara
29	Arka (Local)	*Calotropis procera* (Ait.) R.Br.	Karnashoola
30	Amalaki	*Emblica officinalis* Gaertn.	Pittajavyadhi
31	Yashti	*Glycyrrhiza glabra* Linn.	Alpashukra
32	Uchchata	*Mucuna pruriens* (L.) D.C.	Klaibya
33	Vidari	*Pueraria tuberosa* DC.	Klaibya
34	Kutaja	*Holarrhena antidycentrica*	Atisara
35	Bhallataka	*Semicarpus anacardium* linn. f.	Arsha
36	Vidanga	*Embelica ribes* Durm. F	Krimi
37	Laja	*Oryza sativa* Linn.	Chardi

Table 5: *Rasayogas (Herbo-minerals formulations) Mentioned in the Text*

Sr. No.	Rasaushadhi Name	Indication
1.	Vishwatapaharana	Navajwara
2.	Seetarirasa	Vishamajwara
3.	Kanakasundara Rasa	Grahani, Jwaratisara, Agnimandya
4.	Panchamrita Parpati	Grahani, Rajayakshma, Atisara, Jwara, Streeroga, Pandu, Amlapitta, Visha, Arsha, Agnimandya
5.	Adityavatika	Shoola, Agnimandya, Vataroga
6.	Vilasinivallabha Rasa	Sukrastambhanakara

Table 6: *Anupana in Various Disease Conditions*

Sr. No.	Disease	Anupana
1.	Shoola	Hingu + Ghrita
2.	Puranajwara	Pippali + Madhu
3.	Vataroga	Lasuna + Ghrita
4.	Swasa	Trikatu* + Madhu
5.	Sheetatva	Nagavalli + Maricha
6.	Prameha	Triphala** + Sarkara
7.	Tridosha	Ardrakarasa + madhu
8.	Rasayan	Sarkara + Ghee + Milk

* Trikatu - ginger, long piper and piper

** Triphala – three myrobalans - Haritaki, vibhitaki and Amalaki

5. Discussion

Ayurvedic classics advocated do and don'ts (Pathya and Apathya) in the management of various diseases. Acharyas of Ayurveda explained the etiological factor of every disease in terms of food and behavior of the individual. Lolimbaraja stressed the role of Pathya (wholesome diets and behavior) in the treatment of diseases and declared that the adaptation of Pathya itself cures the condition without any medication, and intake of medicine without Pathya cannot cure the disease [9]. The author has presented the vast Ayurvedic therapeutics dealt in classics in a more precise and concise form by incorporating the safe and effective herbal remedies. It appears that the formulations described in the medieval compilatory works like Vrindamadhava, Chakradatta, Gadanigraha were carefully consulted by Lolimbaraja and incorporated the most popular yogas of these works.

Among the single drug herbal remedies, Lolimbaraja has utilized the information already mentioned in various Ayurvedic texts. Some of the single drug recipes included are- Parpataka (Pittajajwara), Dhanyaka (Daha), Rasona and Jiraka (Vishamajara), Bilva (Atisara and Grahani), Nasal drops of Devadali fruit juice (Kamala), Guduchi (Prameha and Vatarakta), Arjuna (Hridroga), Vakula (Chaladanta), Kutaja (Atisara), Bhallataka (Arsha), Yashti (Aphrodisiac) and Vidanga (Krimi). Vasaguduchyadi kashaya quoted by Vagbhata has also been incorporated by the author in the management of Kamala and Pandu [10].

The popular compound formulations included are Shadangapaneeya, Dhanyakahima, Gudapippaliyoga, Gangadharachurna, Triphalaguggulu, Pindataila, Panchamrita parpati, Lasunadi vati, and Arjunaghrita. Lolimbaraja described one Churna (powder) formulation by his name 'Lolimbarajachurna' [11] consisting of Sunthi, Pippali, Ajamoda, Yavani, Saindhavalavana, and Haritaki for improving digestion. Most of the formulations are suggested in Churna (powder) or Kwatha (decoction) dosage form and another formulation in the name of his wife namely 'Ratnakalachurna' [12] consisting of Kiratatikta, Katuki, Musta, Kutajabeeja, Trikatu, Kutajatwaka indicated for conditions like Pandu, Kamala, Grahani, Atisara, Jwara, Gulma and Prameha. Asava-Arista formulations were not mentioned by him. Bhavprakash [13] suggested about the tying of root of Sahadevi on neck region in the management of Bhutajwara (Agantukajwara) while treating Vishamajwara Lolimbaraja suggests Meghanada [14] moola to be tied to the head.

6. Conclusion

Vaidyajivanam of Lolimbaraja is a handbook of popular herbal and herbo-mineral formulation composed in a poetic style. The author laid emphasis about single drug therapy and quoted several simple herbal recipes collected from various texts of Ayurveda. Text has not mentioned about

Chikitsasutra (plan of treatment) for every disease. The author belongs to 17th century and appears to be the inhabitant of area situated near Reva River locality. The pool of information may be considered as nectar in a nutshell of Ayurvedic therapeutics and research can be initiated and conducted to produce scientific validation for herbal remedies denoted in the text.

References

[1] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India.

[2] P.V. Sharma, 2011: Ayurveda ka Vaijnanika Itihasa, Chaukhambha Orientalia, Varanasi, India, 339-341.

[3] P.V. Sharma, 2011: Ayurveda ka Vaijnanika Itihasa, Chaukhambha Orientalia, Varanasi, India, 341.

[4] Vaidya Lakshmipati Shastri, 2007: Yogaratnakara with Vidyotani Hindi Commentary, Edited by Brahmasanskar Sastri, Chaukhambha Prakashan, Varanasi, India, 567.

[5] Chakrapanidatta, 2002: Chakradatta, Grahanichikitsa, Edited by PV Sharma, Chaukhambha Publishers, Varanasi, India, 67.

[6] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India, 10.

[7] P.V. Sharma, 2011: Ayurveda ka Vaijnanika Itihasa, Chaukhambha Orientalia, Varanasi, India, 339.

[8] Lolimbaraja, 2001: Chamatkara Cintamani, Edited by Nirmal Saxena, Krishnadas Academy, Varanasi, India, 106.

[9] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India, 6.

[10] Vagbhatta, Arunadatta, Hemadri, 2010: Astanga Hridaya, Chikitsasthana, Panduroga Chikitsa /13, Edited by Hari Sadasiva Shastri, Chaukhambha Surbharati Prakashan, Varanasi, India, 702.

[11] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India, 78.

[12] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India, 44.

[13] Bhavamishra, 2009: Bhavaprakasa, Madhyamakhand, Jwaradhikara/848, Part II, Edited by Brahma Sankara Misra, Chaukhambha Sanskrit Bhavan, Varanasi, India, 146.

[14] Lolimbaraja, 2005: Vaidyajivanam, Edited by P.V. Sharma, Chaukhambha Surbharati Prakashan, Varanasi, India, 31.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 90-98, Article ID Med-77
ISSN: 2320 – 0251

Research Article | Open Access

Management of Ischaemic Heart Disease with *'Lekhan Guggulu'*

Anaya Ashish Pathrikar

Department of Kaya Chikitsa, Dr. D.Y.Patil Ayurvedic Hospital, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Anaya Ashish Pathrikar,
anayaashish@gmail.com, anayaashish@yahoo.com

Publication Date: 13 August 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-77

Abstract Ischaemic Heart Disease is known to be the cause of large number of mortality even in developed countries in spite of the fact that much advancement has been made in the field of medicine. In Ayurvedic text, *'Dhamani Pratichaya'* is a described term used specially for the Pathological Condition (*Vikruti*) of the wall of large and medium *Dhamanis* (Arteries) which resembles Ischaemic Heart Disease. The present research attempt is to evaluate *'Lekhan Guggulu'* an Ayurvedic compound for the treatment of '*Dhamani Pratichaya'* with special reference to Ischaemic Heart Disease. The effect of the drug combination was assessed by comparing the subjective and objective parameters and blood biochemistry.
Keywords *Ischaemic Heart Disease, Ayurved, Hrid Rog, Dhamani Pratichaya*

1. Introduction

In spite of the fact that due to wide spread of health awareness, development of newer concept, drugs, establishment of heart clinics, Institutes and coronary care units, a declined trend has been observed in the incidence of Ischaemic Heart Disease, still it remains to be the cause of maximum death throughout the world particularly in developed countries. It appears from this fact that there is still much scope to improve up on the concept as well as the practice of medicine in this area. With this hope several long term projects have been installed for clinical observations and they are bound to deliver good results also.

It is our strong feeling that the Ayurvedic system of medicine can be of great help for controlling the endogenous diseases in general and Ischaemic Heart Disease in particular, as the system is a votary for holistic approach. It is considered that many such diseases have multiple aetiology; hence a multipronged approach is more suitable for their management [1].

Thus, a clinical trial has been launched in this study for the period of 6 months with a new compound, named as '*Lekhan Guggulu'* having *Shuddha Guggulu (Comnifera mukul), Rason (Allium sativum),*

Musta (Cyperus rotundus), Kutki (Picrorrhiza curroa), Guduchi satva (Tinospora cordifolia) and Shuntthi (Zinziber officinale) at Dr. D.Y.Patil Ayurvedic Hospital, Nerul, Navi Mumbai, India [2, 3].

The diagnosis of I.H.D. and the assessment of the results were done on the basis of clinical, bio clinical and electrocardiographic parameters. Spectacular results was noted with this therapy as indicated by the relief of the ischaemic pain and other associated symptoms reduction of the serum total lipids, cholesterol, triglyceride, free fatty acid and uric acid and improvement in E.C.G. characteristic of myocardial blood supply suggested by improvement in ST – segment and T-wave changes [4].

2. Materials and Methods

Title: Management of Ischaemic Heart Disease with '*Lekhan Guggulu'*
Type of Study: Open non comparative study
Place of Study: Dr. D.Y.Patil Ayurvedic Hospital, Nerul, Navi Mumbai
Total no. of Patients: 50
Age Group: 30 to 60 years
Drug: *Lekhan Guggulu*
Ingredients: [5]
Shuddha Guggulu (Comnifera mukul) : 100 mg
Rason (Allium sativum) : 100 mg
Musta (Cyperus rotundus) : 100 mg
Kutki (Picrorrhiza curroa) : 100 mg
Guduchi satva (Tinospora cordifolia) : 50 mg
Shuntthi (Zinziber officinale) : 50 mg
Dosage: 500 mg -2 Tab. three times a day empty stomach
Anupan: Luke warm water
Duration: Six months

2.1. Diagnosis of Ischaemic Heart Disease

The patients who were suspected to be suffering from Ischaemic Heart Disease presenting with the precordial pain, breathlessness either precardial on exertion or with history of angina and previous myocardial infarction were subjected to laboratory investigations [6]. The history was recorded with proforma with special attention on grade, duration, site, radiation, precipitating and relieving factors of chest pain and breathlessness [7]. The other things to be given special attention were family history of I.H.D., body built, weight, dietary habits. Socio-economic status, addiction, occupation and physical examination. Routine laboratory investigations were done for blood, urine, and stool. Blood sugar, blood urea and serum lipid profile were estimated [8]. They were subjected to E.C.G. study to observe the ischaemic changes i.e. depression of ST segment and inversion of T-wave and the changes of myocardial infarction etc. If necessary X-ray chest was also done to confirm size and shape of the heart and to exclude any lung disease [9].

2.2. E.C.G. Diagnosis of Ischaemic Heart Disease

The patients having symptoms of I.H.D. were subjected to E.C.G. study. Tracing of three standard (Bipolar) limb leads i.e., L_1, L_2 and L_3, unipolar limb leads i.e. aVR, aVL, aVF and six precordial leads i.e. V_1 to V_6 were recorded. The diagnosis was done on the criteria described by Goldman (1979). In doubtful cases tracings were done after exercise also.

2.3. Electrocardiography Criteria

2.3.1. Myocardial Ischaemia

a. Precordial leads– ST-segment depression or T-wave inversion (or both) in left precordial leads (V_5-V_6)
b. Unipolar limb leads– changes similar to those described in precordial leads are seen in a aVL or aVF (depending upon the frontal plane vector). Reciprocal ST- segment elevation may be seen in aVR.
c. Standard leads - these will reflect the pattern present in the limb leads. If the changes noted above are seen in aVL, they will be present in L_1, if present in L_3.

2.3.2. Myocardial Infarction

Presence of concave ST- segment elevation, QS – complexes or abnormal Q- waves, and T- wave inversion in the various leads described above.

2.4. Diet

Regarding diet patients were advised to take their normal diet, except intake of excess fried eatables. They were permitted to use their usual fats and oils as cooking media. No calorie restriction was advised. Thus no deliberate attempt was made to impose dietary restriction or to prescribe major dietary management.

2.5. Rest

Majority of the cases were ambulatory and getting treatment from O.P.D. Some of them were hospitalized in the beginning for the investigations and then advised to continue as O.P.D. patients. During the period they were advised to avoid strenuous exercise. They were allowed to attend their normal duties, as long as they do not get chest pain or dyspnoea. They were advised to rest on full stomach, i.e. after meals.

2.6. Assessment of Results

In order to evaluate the response of *'Lekhan Guggulu;* in the management of Ischaemic Heart Disease, the assessment of the results has been done from three aspects as follows.

1. Clinical assessment
2. Biochemical assessment for lipids
3. Electrocardiographic assessment

2.6.1. Clinical Assessment

Table 1: *Grading of I.H.D. Patients as Regards Precordial Pain and Dyspnoea*

Symptoms	Grade I	Grade II	Grade III	Grade IV
Pre-cordial pain	Pain is only provoked by hurrying or walking uphill or several flights of stairs	Walking on the level at an average speed causes pain, usually within the first 300 yards	Pain occurs even when walking slowly	Pain at rest and total in capacity

Dyspnoea	Dysponea is only provoked by hurrying or hills or several flights of stairs	Walking on the level at an average speed causes dyspnea usually within the first 300 yards	Dyspnoea occurs even When walking slowly	Dyspnoea at rest and Total incapacity

2.6.2. Biochemical Assessment:

For the assessment of hypocholesterolaemic and hypolipidaemic action of *'Lekhan Guggulu,* the estimation of serum cholesterol and serum lipids was done at monthly intervals.

2.6.3. Electrocardiographic Assessment

E.C.G. was done after monthly intervals and response on E.C.G. changes have been graded as follows.

2.6.3.1. Significant Improvement

Complete improvement in depression of ST-segment and achievement of normal pattern of T-wave in all the leads.

2.6.3.2. Improvement

Partial improvement in ST- segment and normal pattern of T-wave in some of the leads or improvement in the level of inversion of T-wave.

2.6.3.3. No improvement

Either no improvement in St- Segment and T- wave or deterioration.

2.7. Overall Assessment of Result

2.7.1. Cured

If the patient do not get precordial pain, their E.C.G. serum lipids and cholesterol are normal at the end of trial.

2.7.2. Relieved

If there is improvement in precordial pain and E.C.G. or serum lipids are normal at the end of trial.

2.7.3. Improved

If there is improvement in precordial pain at the end of this clinical trial and E.C.G. and serum lipids do not show any betterment.

2.7.4. Unchanged

When there is no improvement in precordial pain, E.C.G. and serum lipids at the end of clinical trial.

3. Observations

3.1. Age and Sex Incidence

In this series of 50 cases, 84% cases belonged to the age group between 30 and 60 years, which is a common age, were male, while 24% were female. Our observation conforms to that of the previous workers that males are more prone to I.H.D. than females.

3.2. Dietary Habits

Though the disease is common in vegetarians as well as non-vegetarians, the incidence seems to be more in the former group (60%) as compared to the latter one (40%).

3.3. Environment

74% of our patients belonged to the rural and the rest to the urban areas. This shows that I.H.D. is even more common in the rural area which is contrary to the common belief of urban prevalence of this disease.

3.4. Economic Status

Only 16% patients had income more than Rs. 5,000/- per month, while rest of them belonged to upper middle or lower middle class. It is against the common beliefs that here disease is confined to rich people only.

3.5. Occupational status

Regarding occupation, this study showed that people from every walk of life are affected and no occupation is exempted as 24% came from business community, 12% from medical and engineering profession, 34% from service class and 10% were farmers.

3.6. Incidence of Addiction

In this study 60% patients were addict to tobacco, smoking / chewing. It is the conformity of the fact that smoking is the one of the major risk factors. About 6% were addict to alcohol, while 32% patients had no addiction at all.

4. Pattern of Positive E.C.G. Findings Observed

The E.C.G. of all the 45% patients was done for the diagnostic purpose. Out of these, 88.89% cases showed positive E.C.G. changes and in 11.11% cases the pattern was within normal limit but they had classical symptoms of angina pectoris with high serum lipids. Among the 88.89% cases, there was ST-segment depression and T-wave inversion in different leads according to the site of lesion. 3 E.C.G. tracing showed the present of myocardial infarction along with ischaemic changes.

Table 2: *Pattern of Positive E.C.G. Findings Observed In Patients of I.H.D.*

S. No.	E.C.G. Findings	No. of cases	Percentage
1	ST-segment and T-wave changes in L_1, aVL& V_{4-6}	14	31.1
2	ST-segment & T-wave changes in V_{1-3}	2	4.4
3	ST-segment & T-wave changes in L_2, L_3 & Avf	8	17.7

4	ST-segment & T-wave changes in L_1, L_2, aVL, Avf & V_{4-6}	13	28.8
5	M.I. pattern	3	6.6
6	No E.C.G. findings	5	11.1
	Total	**45**	**100**

5. Clinical Features Observed

Precordial pain & Dyspnoea on effort are the main symptoms of I.H.D. Majority of the cases who subjected themselves for clinical trials, were early cases of I.H.D. On the other hand, only 6% cases had already suffered from Myocardial Infarction & thus they were advanced cases of I.H.D. and were not satisfied with the present available treatment.

Table 3: *Signs & Symptoms Observed in the Patients of I.H.D. (50 cases)*

S. No.	Signs & Symptoms	No. of cases	Percentage
1	**Precordial pain**	50	100
	Grade 1	-	-
	Grade 2	7	14
	Grade 3	33	66
	Grade 4	10	20
2	**Dyspnoea**	38	76
	Grade 1	2	4
	Grade 2	20	40
	Grade 3	15	30
	Grade 4	1	2
3	**Palpitation**	45	90
4	**History of M.I.**	3	6
5	**Hypertension**	5	10
6	**History of syncope**	3	6
7	**Diabetes Mellitus.**	3	6
8	**C.H.F.**	3	6
9	**Cough**	11	22
10	**Giddiness**	3	6
11	**Weakness**	6	12
12	**Pain in joints**	2	4
13	**Anorexia**	9	18
14	**Constipation**	4	8
15	**Flatulence**	8	16

6. Results

6.1. Clinical improvement

6.1.1. Response of Treatment on Precordial Pain

In all the 45 cases, there was precordial pain before treatment, Grade IV – 9, Grade III – 30, Grade II – 6 and Grade I – Nil. After six months treatment, there was no precordial pain in 32 patients, and rest of the patients showed reduction in the Grade of precordial pain. After treatment position of the Grade was as follows: Grade IV – Nil, Grade III – Nil, Grade II – 2, Grade I – 11 and Grade 0 – 32. Thus there was significant improvement in precordial pain.

6.1.2. Response of treatment on Dyspnoea

Dyspnoea on effort was observed in 35 cases out of 50. One case was Grade IV, 13 cases in Grade III, 19 in Grade II, and 2 in Grade I. After six months of treatment, 30 cases reported complete improvement in dyspnoea on effort and only 5 patients were having dyspnoea of Grade I. Thus, there was significant improvement in dyspnoea on effort also.

6.1.3. Response of Treatment on Body Weight

The initial average body weight of 50 patients was 63.5 kg. After six months treatment, it was reduced to 59.6%. The average fall in body weight was about 3.9 kg. On statistical analysis it was highly significant (P<0.05).

6.2. Electrocardiographic Improvement

Within this time of six months, improvement has been observed in 75% cases out of which it was significant in 20% cases. The nature of improvement was normalization in ST – segment depression and in T – wave inversion. No improvement could be observed in 25% cases; among them some were the cases of myocardial infarction or Bundle branch block which are known to be irreversible type of changes.

Table 4: *Improvement in E.C.G. after Treatment in 40 Cases of I.H.D.*

Improvement	No. of cases	Percentage
Significant Improvement	8	20
Improvement	22	55
No Improvement	10	25

6.3. Biochemical Improvement

Significant reduction in the serum lipids and uric acid was observed after 6 months therapy with as mentioned below in tabular form.

Table 5: *Serum Lipids & Uric Acid Before and After Treatment in I.H.D. (6 Months Therapy)*

Name of Investigations	Before Treatment (Mean)	After Treatment (Mean)	Reduction	Percent Reduction
S. Chlolesterol	274.4	183.93	90.47±11.75 t=7.70, P<0.001	32.98
S. Total Lipids	704.8	482.0	222.80±41.04 t=5.43, P<0.001	31.62
S. Triglyceride	144.3	84.75	59.55 ±8.05 t=7.40, P<0.001	41.27
S. Free fatty acid	1.95	0.84	1.11 ±0.14 t= 7.93, P<0.001	56.93
S. Uric acid	5.7	3.52	2.18 ±0.20 t= 10.90, P<0.001	38.25

7. Overall Assessment of Result

In this six months trial of *'Lekhan Guggulu'* in 45 patients of Ischaemic Heart Disease, 8 patients were cured, 30 patients relieved, 8 patients improved whereas signs & symptoms in 2 patients remained unchanged.

Table 6: *Overall Assessment of Result in 45 Patients of I.H.D.*

S. No.	Results	No. of patients	Percentage
1	Cured	8	17.7
2	Relieved	30	60.0
3	Improved	8	17.7
4	Unchanged	2	4.4
	Total	**45**	**100**

8. Conclusion

Treatment of Ischaemic Heart Disease patients with *'Lekhan Guggulu'* for a period of 6 months have given very good results. The drug Combination is proved safe and without any toxicity. The effect of drug combination (*Lekhan Guggulu*) of Ischaemic Heart Disease (*Dhamani Pratichaya*) is very interesting and deserves closer attention regarding its action on the yellow streak plaque. The exact mode of action of drug is unknown; however details could be known only when more extensive animal and clinical trials with well and full proof statistical design can more light on how the drug brings out the desired therapeutic effect.

A new path has been opened by the present preliminary work which may lead to the discovery of potent and effective drug in Ischaemic Heart Disease (*Dhamani Pratichaya*).

References

[1] Charak Samhita, Chaukhambha Prakarshan, Varansi by Acharya Vidyadhar Shukla & Prof. Ravidatta Tripathi, Vol. II, Reprinted-2012, 637-641.

[2] Upadhyay B.N., 1979: *Studies on the Role of C. Mukul (Guggulu) in the Management of Ischaemic Heart Disease.* Ph.D. Thesis, Kayachikitsa Department, I.M.S., B.H.U., India.

[3] Gupta O.P., 1980: *An Assessment of Intermittent Use of C. Mukul in the Treatment of Hyperlipidaemia and Hypercholesterolaemia in Ischaemic Heart Disease*. Ph.D. Thesis, Kayachikitsa Department, I.M.S., B.H.U., India.

[4] Dr. G.D. Singhal & Colleagues, 2004: Ayurvedic Clinical Diagnosis based on Madhava Nidana Part I/II Chaukhamba Surbharati Prakation.

[5] Bhavprakash Nighantu, Chaukhambka Bharati Academy, Varanasi by Ganga Sahaya Panday & Krishnachandra Chunekar, Edition-2004.

[6] Brown M.S. et al. *Lipoprotein Receptors in the Liver, Control Signal For Plasma Cholesterol Traffic.* J Clin Invest. 1983. 72 (3) 743–747.

[7] Anderson B.W. *HDL Cholesterol: The Variable Components*. The Lancet. 1978. 311 (8068) 819-820.

[8] Bierman E.L., et al. *Carbohydrate Intolerance and Lipemia.* Ann Intern Med. 1968. 68 (4) 926-933.

[9] Tsallow T.T., et al. *Plasma Lipid Studies in Chronic Patients during Analysis.* American Journal Clinic Nut. 1968. 21; 430.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 46-53, Article ID Med-81
ISSN: 2320 – 0251

Research Article | Open Access

A Review on Role of Prakruti in Vocational Guidance

Hemangini Waghulade

Department of Sharir Kriya Vidnyan, Dr. D.Y.Patil College of Ayurved & Research Institute, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Hemangini Waghulade, hs_waghulade@rediffmail.com

Publication Date: 21 May 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-81

Abstract Ayurved is an eternal science with sound & absolute principles. Prakruti is an important concept of Ayurveda & plays a very important role in the designing lifestyle of a person for maintenance of health. At the time of union of sperm & ovum, predominance of trigunas, panchamahabhutas & doshas decide the prakruti or constitution of every individual. Once this proportion is set, generally it remains permanent for the lifetime of that individual. Vocational exploration courses offer students the opportunity to research different career possibilities as well as to learn in which vocational areas they have aptitude or talent in. By knowing the prakruti of a particular person, we can get an appropriate idea about his likings or the things he is comfortable with. So, we can guide the person in choosing appropriate profession which will be according to his liking or passion & also he will have the ability to become successful in that particular profession. Through this article, I have made an attempt to evaluate the interrelationship between prakruti & vocational guidance. From this study, I conclude that all the physiological processes are directly controlled by tridosha and thus by the predominant dosha in a particular type of prakriti. Vocational guidance is closely related with prakriti. This conceptual study will be helpful in various vocational guidance centers & also in assigning a particular designation to an employee based on his ability.
Keywords *Prakruti, Dosha, Vocational Guidance, Career Guidance, Constituition*

1. Introduction

Ayurved is one of the great gifts of the sages of ancient India to mankind. Ayurved is designed for healthy & long life span. This aim is fulfilled by its sound & absolute principles. Agni, Prakruti, Dhatusaratva, Dosha are the specialities of Ayurved or the things on which Ayurved rests its research & cure.

Prakruti or body-mind typology is an important concept of Ayurveda & plays a very important role in the designing lifestyle of a person for maintenance of health. Its determination is also important in diseased condition as it is essential for prognosis & planning of treatment. Prakruti remains unchanged during whole life & affects every aspect of life.

If we look at different people in the world around us, we observe that all of us are not simply alike. The standard or average person is a statistical abstraction who does not really exist. Each one of us is different in many ways, both physically & mentally. Each person possesses a unique constitution different from that of any other person. The shapes & sizes, temperaments & characters of people have an enormous variation that affects our health & happiness. We must understand our own nature for happiness & well-being in life. Similarly we must understand the nature of others, which may be different than our own, for harmonious social interaction. The food which is good for one person may not be good for another. For e.g. one person may thrive on spices, while another similar person may not be able to tolerate them. Similarly the psychological conditions favorable for one person may not suit another. Competition may stimulate one person to greater achievement but can intimidate another & make him fail.

Without understanding our particular constitution, we can fall into poor health & disease. No standardized medicine can adequately deal with all our individual variations. Only a system that can discern our different constitutional types has this capacity. Ayurveda contains such a well-developed science of individual types as its core wisdom. One of the great beauties of Ayurved that it so clearly helps us to understand all our individual variations, special abilities & idiosyncrasies.

There is a lot of saturation only in the money making careers at the cost of ignoring one's caliber & such saturation leads to competition & ignorance to other interesting fields. But now there is more importance given to individual's own choice profession & hence it becomes essential for an individual to choose profession according to his passion & liking. To enrich his professional career, prakruti assessment can play a very important role.

By knowing the prakruti of a particular person, we can get an appropriate idea about his likings or the things he is comfortable with. So, we can guide the person in choosing appropriate profession which will be according to his liking or passion & also he will have the ability to become successful in that particular profession.

Work consumes at least a third of our lives. Success or failure at your chosen profession affects your self confidence, yourself worth & the self validity of your personality. After all, your work should agree with your Prakruti [18].

1.1. Aims & Objectives

1. To study the concept of prakruti in context of vocational guidance.
2. To establish the interrelationship between prakruti & vocational guidance.

This conceptual study will be helpful in various vocational guidance centers for selecting their careers according to their liking & ability. It will also help in assigning a particular designation to an employee based on his ability in multinational companies. One can advise a particular job profile according to one's prakruti.

2. Materials & Methods

Only texual materials are used for this study, from which various references have been collected. Main Ayurvedic texts used in this study are Charak Samhita, Sushruta Samhita, Ashtanga Sangraha, Ashtanga Hridaya, Harit Samhita & the available commentaries on it. Modern texts & related websites have also been searched.

2.1. Conceptual Study

The word prakruti has been derived from “Prakarshena karoti iti prakruti” which means manifestation of special characteristics due to predominance. In Ayurveda, the word Prakriti has been used in the sense of deha prakriti. At the time of union of sperm & ovum, predominance of trigunas, panchamahabhutas & doshas decides the constitution of every individual [1, 2, 4]. Once this proportion is set, generally it remains permanent for the lifetime of that individual. Although prakriti is determined by the dosha predominantly involved, some other factors are also involved in prakruti formation as described by Acharya Charak in Vimansthan chapter 8 [3].

Factors responsible for constitution:

1. Nature of sperm & ovum at the time of conception
2. Nature of season & the condition inside the uterus.
3. Food & other regimens adopted by the mother during pregnancy.
4. Nature of elements comprising the fetus.

Involvement of dosha in prakruti formation may be individual or intermingled. So, prakruti is of seven types, i.e. vataj, pittaj, kaphaj, three dwandwaj & one samadoshaj. Characters which are manifested in a person of any specific prakriti depend upon the properties of dosha involved [1, 2, 4]. For example, Vata with laghu, sukshma, chala, vishada, ruksha, shita and khara properties imparts its properties in developing personality. Same should be understood with regard to rest of the doshas. In mixed personality characters, more than one dosha appear specifically. Characters of various personalities are discussed below.

2.1.1. Vataja Prakriti

Characters of Vataja prakriti persons are as follows: [5, 6, 7, 16, 17]

- Ununctuousness, emaciation and dwarfness of the body; long-drawn, dry, low, broken, obstructed and hoarse voice; always keeping awake, Light and inconsistent gait, action, food and movement, Unstable joints, eyes, eye brows, jaws, lips, tongue, head, shoulder, hands and legs.

- Talkativeness, abundance of tendons and veins, quick in initiating actions, getting irritated and the onset of morbid manifestations, quick in affliction with fear, quick in likes and dislikes, quick in understanding and forgetting things, intolerance to cold things, often getting afflicted with cold, shivering and stiffness, roughness of hair of the head, face and other parts of the body, nails, teeth, face, hands and feet, cracking of the limbs and organs, production of cracking sound in joints when they move. Vataj type of constitution mostly possesses strength, lifespan, procreation, accessories of life and wealth in lesser quantity.

- They are always energetic, flexible, enthusiastic, vibrant, resilient, vivacious, and full of imaginative ideas & with creative energy. These people are good in communication & have capacity for positive change. They make friends quickly. They are desirous of music, humour, hunting, gambling & travelling.

2.1.2. Pittaja Prakriti

Characters of Pittaja prakriti persons are as follows: [8, 9, 10, 16, 17]

Intolerance to hot things, having hot face, tender and clear body of port-wine mark, freckles, black moles, excessive hunger and thirst, quick advent of wrinkles, graying of hairs and baldness, presence of some soft and brown hair on the face, head and other parts of the body. Having sharp physical strength, strong digestive power, intake of food and drink in large quantity, inability to face difficult situations and glutton habits, looseness and softness of joints and muscles, voiding of sweat, urine and feces in large quantity, have putrid smell of axilla, mouth, head and body in excess, having insufficiency of semen, sexual desire and procreation. By virtue of above mentioned qualities, a man having Pittaj type of constitution is endowed with moderate strength, moderate lifespan, moderate spiritual and materialistic knowledge, wealth and accessories of life.

They are intelligent, courageous, having good will. Their voice is high pitched & they like to speech up to the point. These people have debating nature & they are good orators. They are brave, egoistic, cultured & console those who are in need & also harsh for those who doesn't listen to him. They never fear & bend before powerful opponents. They are natural leaders & can command the situation very well. They love perfumeries, garlands, cosmetics & self praise. These people are desirous of grandeur & adventure.

2.1.3. Kaphaja Prakriti

Characters of Kaphaja prakriti persons are as follows: [11, 12, 13, 16, 17]

Unctuousness of organs, smoothness of organs, pleasing appearance, tenderness and clarity of Complexion, increased quantity of semen, desire for sexual intercourse and number of procreation, firmness, compactness and stability of the body, plumpness and roundedness of all organs, slow in action, intake of food and movements, slow in initiating actions, getting irritated and morbid manifestations, non-slippery and stable gait with entire sole of the feet pressing against the ground , lack of intensity in hunger, thirst, heat and perspiration, firmness and compactness in joints, clarity and unctuousness in complexion, appearance and voice. By virtue of the above-mentioned qualities, a man having Kaphaj type of constitution is endowed with the excellence of strength, wealth, knowledge, energy, peace and longevity.

These people are grateful, courageous, tolerant, non greedy, virtuous & obedient. They have good memory & have thorough knowledge of science. They believe in charity & donate a lot who deserves. They are calm, truthful, righteous, soft spoken, humble, foresighted, dignified, forgiving & civilized. They are capable of withstanding hardship & can tolerate sorrow, hunger & thirst. These people are fond of listening music & musical instruments.

2.1.4. Dwandvaja Prakriti

Individuals having a constitution dominated by a combination of two doshas are characterized by the combination of the manifestations of the respective doshas

2.1.5. Samadoshaj Prakriti

A samadoshaj type of individual who has all the doshas in a state of equilibrium is endowed with good qualities of all three types of individuals described above.

2.2. Concept of Vocational Guidance

A vocation is a career or calling and the word is derived from the Latin vocare, which means "to call." Vocational guidance means helping someone finding at least a suitable career choice. Vocations or careers can be loosely categorized into areas such as service, technical, mechanical, creative, health and business.

Vocational guidance is often started in high school although some high schools also have vocational training programs. Vocational exploration courses offer students the opportunity to research different career possibilities as well as to learn in which vocational areas they have aptitude or talent in. For instance, many vocational guidance classes give tests to the students that test their ability with numbers, words, mechanical concepts and many more subjects. Tests designed to measure an individual's personality traits, intelligence quotient (IQ) as well as his or her main values and interests are administered and analyzed by career counselors.

Vocational guidance isn't just for high school students. Rather it's for anyone either starting a career or changing careers. Some people may have several different careers in their life, while others may stay in the same field during all their working years.

The following are the objectives of vocational guidance:

- To assist students to acquire knowledge of the characteristics, functions, duty requirement of occupations in which they are interested.
- To enable students to get relevant information about abilities and skills in terms of related qualification and competencies required taking up the identified occupation.
- To enable students to chose the right type of jobs.
- To develop entrepreneurship qualities in students for taking up self-employment.

2.3. Interrelationship between Vocational Guidance and Prakriti

Vocational guidance offers students the opportunity to search for different career possibilities as well as to learn which vocational areas they have aptitude or talent in. By identifying one's own prakruti, it is possible to guide the students in selecting their career that will suit to their liking as well as their ability for better future. The dosha that predominates due to our genetic inheritance dictates certain demands in terms of diet, environment & occupation. If we recognize this & follow the guidelines according to our prakruti, we will not end up with the physical & mental health hassles that can lead to major complications.

Vata prakruti people are usually very talkative & can speak on any subject to any audience. They speak for the love of speaking. Talking expends a lot of energy, which is one reason they love it so. They can work as telephone operators, medical representatives, lawyers, school teacher, news reader, call centers, shopkeepers, and salesman. They enjoy constant stimulation of a job, seeing new places, meeting new people so they can be travel agents, anchors, and LIC agents. They love to work at jobs that require sudden bursts of intense energy, because they naturally work that way. So they can be pop singers, comedians, comic story writers, instrument players, circus artist, and disco dancers. Vata prakruti persons are active, speedy, usually light weight people so they can be circus artist, athleticians, table tennis/badminton/Kho-kho players. They can perform better in high jump, long jump, basket ball, horse riding, racing car, football players. They are so active & efficient so they can work better as nurses or ward boys in hospitals. These people are original thinkers & very creative so they can make their career in event management, fashion designing, interior decorating &

painting also. They enjoy constant stimulation & excitement but these people must pace themselves carefully & resist the temptation to try to do everything at once.

Pitta prakruti people are dedicated to the practical side of life. They are realists & enjoy the palpabilities of reality. They are by nature aggressive & self promoting. To them everything is a contest & all contests are deserved to be won. They plan methodically & efficiently. They love to engineer new ideas into practical uses. They require a job providing sufficient challenge to keep them occupied without the stress of severe competition. They are usually acutely intelligent. Their innate arrogance of cleverness can make them intolerant. They can be top executive, computer engineers, scientists, school teachers, research workers, politicians, chess players. They are brave, courageous; enjoy challenges so they can be police inspectors, military officers, soldiers, detectives, stuntmen, action heroes, pilots, criminal lawyer. They can make their career in kabaddi, sword fighting, swimming, racing car, adventure sports, trekking which requires courage. They love music & dance so they can prove their best in classical dance, music direction. They ought to avoid physically irritating work situations like welding or metal casting which involve intense heat that might increase pitta.

Kapha prakruti people are great administrators, having steady mind, great stamina. They are so stable & balanced so they can be IAS officers, navy officers, legal advisors, editors, top executives in government. They can become good judge, professor, commissioner or research officer. These people have great stamina so they can be good in wrestling, weight lifting, lawn tennis. They are calm, quiet, steady, have resonating voice so they can become classical singers. They can manage well. They give the ideas an enterprise & they will make it run smoothly. These people should keep themselves active, motivated & stimulated to keep their self dosha in balance. They must be approached with force, determination & consistency.

3. Discussion

The three doshas acts as government, controlling the day-to-day activities of the body. They are in charge of the fine tuning of body so that the balance is maintained & the functions are optimized. Just as there are three doshas, there are three major types of prakruti reflecting the predominance of that particular dosha. Prakruti plays a very important role in the designing of a lifestyle of a person for maintenance of health.

Here are few examples of the way we can differentiate people in categories for advising various careers. Vata prakruti people can be comic story writers, pitta people can be bravery story writers while kapha people can be mysterious story writers. Vata prakruti people can be football players' pitta people can work good as a goal keeper & kapha people can do a better job as a referee. Vata prakruti people can be a good general practitioner as they are active & love talking, pitta can be good surgeons, CMOs or neurosurgeons as they are courageous, kapha people can better work as Ayurved consultants, psychiatrists as it requires great patience. Vata prakruti people can be good comedians, pitta people can be action heroes, kapha people can work as a character artist or film director. In dwandwaj prakruti, both doshas should be considered according to the predominance. Also the dominance of dosha gunas in the prakruti should also be considered while advising the career. It should always be remembered that vata people need balance & relaxation, pitta people require challenges & kapha people need motivation & stimulation to keep their self doshas in balanced state. A retrospective study is also started whether successful people of same profession are having similarity in their prakruti or not.

Making the constitution work for you & not against you, in every aspect of life is one of the life's great challenges.

4. Conclusion

To conclude, following are the points derived from the above discussion:

1. All physiological processes are directly controlled by tridosha and thus by the predominant dosha in a particular type of prakriti.
2. Vocational guidance is closely related with prakriti.
3. This conceptual study will be helpful in various vocational guidance centers & also in assigning a particular designation to an employee based on his ability.

References

[1] Agnivesha, Charak Samhita, Vidyotini Hindi Commentary by Pt. Kashinath Shastri and Dr. Gorakhanath Chatur vedi. Sutrasthana, 7/39-40.Chaukhamba Bharti Academy; 1998.

[2] Sushruta, Sushruta Samhita, Ayurvedatatvasandipika Hindi Commentary by Kaviraj Dr. Ambikadutt Shastri. Sharirsthana, 4/62. Varanasi: Chaukhamba Sanskrit Samsthana; 2001.

[3] Agnivesha, Charak Samhita, Vidyotini Hindi Commentary by Pt. Kashinath Shastri and Dr.Gorakhanath Chaturvedi. Vimansthan, 8/95.Chaukhamba Bharti Academy; 1998.

[4] Vagbatt, Ashtang Hridya, Vidvanamanoranjini Hindi Commentary by Pt. Kashinath Shastri, edited by Dr. Indradev Tripathi and Dr. Shrikant Tripathi. Sutrasthan, 1/9-10.Varanasi: Krishnadas Academy; 1194.

[5] Agnivesha, Charak Samhita, Vidyotini Hindi Commentry by Pt. Kashinath Shastri and Dr.Gorakhanath Chaturvedi. Vimansthan, 8/98.Chaukhamba Bharti Academy; 1998.

[6] Sushruta, Sushruta Samhita, Ayurvedatatvasandipika Hindi Commentary by Kaviraj Dr. Ambikadutt Shastri. Sharirsthana, 4/64-66. VaranasiChaukhamba Sanskrit Samsthana; 2001.

[7] Vagbatt, Ashtang Hridya, Vidvanamanoranjini Hindi Commentary by Pt. Kashinath Shastri, edited by Dr. Indradev Tripathi and Dr. SrikantTripathi. Sharirsthan, 3/84-89. Varanasi: Krishnadas Academy; 1994.

[8] Agnivesha, Charak Samhita, Vidyotini Hindi Commentary by Pt. Kashinath Shastri and Dr. Gorakhanath Chaturvedi. Vimansthan, 8/97. Varanasi Chaukhamba Bharti Academy; 1998.

[9] Sushruta, Sushruta Samhita, Ayurvedatatvasandipika Hindi Commentry by Kaviraj Dr. Ambikadutt Shastri. Sharirsthana, 4/68-70. Varanasi Chaukhamba Sanskrit Samsthana; 2001

[10] Vagbatt, Ashtang Hridaya, Vidvanamanoranjini Hindi Commentary by Pt. Kashinath Shastri.In: Tripathi I, Tripathi S, editors. Sharirsthan, 3/90-95.Varanasi: Krishnadas Academy; 1994.

[11] Agnivesha, Charak Samhita, Vidyotini Hindi Commentary by Pt. Kashinath Shastri and Dr. Gorakhanath Chaturvedi. Vimansthan, 8/96. Varanasi Chaukhamba Bharti Academy; 1998.

[12] Sushruta, Sushruta Samhita, Ayurvedatatvasandipika Hindi Commentary by Kaviraj Dr. Ambikadutt Shastri. Sharirsthana, 4/72-75. Varanasi Chaukhamba Sanskrit Samsthana; 2001.

[13] Vagbatt, Ashtang Hridaya, Vidvanamanoranjini Hindi Commentry by Pt. Kashinath Shastri.In: Tripathi I, Tripathi S, editors. Sharirsthan, 3/96-103.Varanasi: Krishnadas Academy; 1994.

[14] Agnivesha, Charak Samhita, Vidyotini Hindi Commentary by Pt. KashinathShastri and Dr.Gorakhanath Chaturvedi. Vimansthan, 8/99.Varanasi: Chaukhamba Bharti Academy; 1998.

[15] Agnivesha, Charak Samhita, Vidyotini Hindi Commentry by Pt. Kashinath Shastri and Dr. Gorakhanath Chaturvedi. Vimansthan, 8/100. Varanasi: Chaukhamba Bharti Academy; 1998.

[16] Vagbatt, Ashtang Sangraha by Pro. K.R.Srikantha Murthy Sharirsthana 8/6-14; Choukhambha Orientalia, Varanasi 2005.

[17] Harit Samhita by Hariharprasad Tripathi Pratham sthan 5/17-22 Choukhambha Krishnadas Academy 2005.

[18] Prakriti your Ayurvedic constitution by Dr. Robert E.Svoboda, Motilal Banarasidas Publishers Private Limited, Delhi.

[19] Concept of Prakruti & Lifestyle by Dr. Subhash Ranade & Dr. Rajendra Deshpande, Choukhamba Sanskrit Pratishthan, Delhi.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 83-89, Article ID
ISSN: 2320 – 0251

Review Article | Open Access

Role of AYUSH Doctors in Filling the Gap of Health Workforce Inequality in Rural India with Special Reference to National Rural Health Mission: A Situational Analysis

Janmejaya Samal

Padmashree School of Public Health, Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka, India

Correspondence should be addressed to Janmejaya Samal, janmejaya_samal@yahoo.com

Publication Date: 6 August 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-83

Abstract Paucity of health workforce in rural India has always been a problem. Lack of interest of modern allopathic graduates in serving the rural poor has worsened the situation little more. The National Rural Health Mission brought an innovative concept of mainstreaming of AYUSH and revitalization of local health tradition by collocating AYUSH doctors at various rural health facilities such as community health centers and primary health centers. In this context a study was aimed, based on secondary data, to make a situational analysis of health workforce in rural India and thereby analyzing the status and role of AYUSH Doctors in filling this gap of health workforce inequality. As on 01/01/2010 there were 61% of Ayurveda, 31.40% of Homoeopathy, 6.50% of Unani, 0.90% of Siddha and 0.20% of Naturopathy doctors serving in India. AYUSH facilities had been collocated in 240 district hospitals, 1716 community health centers and 8938 primary health centers in 2010. About 39.8% District Hospitals (DH), 38% Community Health Centers (CHC) and 38.2% Primary Health Centers (PHC) had been collocated with AYUSH facilities by 2010. About 30.9 lakhs rural population were being served by district hospitals, 4.3 lakhs of rural population were being served by CHCs and 0.8 lakhs of rural population were being served by PHCs in various states/UTs wherever the corresponding facilities exist. Equitable distribution of health workforce is of paramount importance in achieving both the horizontal and vertical health equity in rural India which is doable with proper implementation of AYUSH workforce.

Keywords *AYUSH Doctors, Gap, Health Inequality, Health Workforce, NRHM, Rural India*

1. Introduction

India's steps towards universal health coverage began in the early years after independence but they faltered because of various factors, including resource constraints. The context has vastly changed since then but the need remains as urgent as it always was [1]. Among various resources contributing to universal health coverage and health equality the role of health workforce is of utmost importance especially in rural areas. Inequalities in health workforce distribution may impact adversely on better

health outcomes. Paucity of health workforce in rural India has always been a problem. Lack of interest of modern allopathic graduates in serving the rural poor has worsened the situation little more. The National Rural Health Mission brought an innovative concept of mainstreaming of AYUSH and revitalization of local health tradition by collocating AYUSH doctors at various rural health facilities such as community health centers and primary health centers. The concept of mainstreaming of AYUSH was an idea in the IXth five-year plan before it was actually implemented in the country by NRHM in 2005. NRHM came in to play in 2005 but implemented at ground level in 2006 and introduced the concept of mainstreaming of AYUSH and revitalization of local health traditions to strengthen public health services [2, 3, 4]. The present document tries to make a situational analysis on the status and role of AYUSH doctors in filling the gap of health workforce inequality in rural India with special reference to national rural health mission.

Table 1: *Health Man-Power in Rural India as on March 2010 [5]*

Sl. No.	Category	Required	Sanctioned	In Position	Vacant	Shortfall
1	ANM at SC	147069	140721	166202	9376	10793
	ANM at SC and PHC	170742	161794	191457	10214	15079
2	MPW(Male) at SC	147069	76074	52774	25853	94337
3	Health Assistant (Female)/ LHV	23673	20860	17034	5070	7275
4	Health Assistant (Male)	23673	22739	16565	6912	10029
5	Doctors in PHCs	23673	29639	25870	6148	2433
6	Specialists:					
	• Surgeon	4535	2607	1531	1295	2583
	• Gynecologist and Obstetrician	4535	2429	1939	890	2271
	• Physician	4535	2087	1165	1036	2949
	• Pediatrician	4535	2062	1311	1070	2991
	Total Specialist at CHC	18140	9825	6781	4156	11361
7	Radiographer at CHC	4535	2907	1817	1260	2724
8	Pharmacist at PHC & CHC	28208	23376	21688	4653	7655
9	Lab. Technician at PHC & CHC	28208	17858	15094	5183	14225
10	Nursing Staff at PHC & CHC	55418	56805	58450	10289	13683
11	BEE at PHC	NA	4587	3063	1821	NA

2. Objective

To make a situational analysis of rural health workforce with the status and trend of AYUSH doctors in filling the gap of health workforce inequality in rural India with special reference to National Rural Health Mission.

3. Methodology

Review based study. The study used secondary data obtained from various sources mainly from the Dept. of AYUSH, Ministry of Health and Family Welfare, Planning Commission Report on AYUSH and the policy document of National Rural Health Mission on mainstreaming of AYUSH and revitalization of local health traditions.

4. Discussion

The concept of mainstreaming of AYUSH was an idea in the IXth five-year plan before it was actually implemented in the country by NRHM in 2005. The department of Indian system of medicine was

created in March 1995 [6, 7] and renamed to AYUSH in Nov. 2003 [9] with a focus to provide increased attention for the development of these systems. This was felt in order to give increased attention to these systems in the presence of strong counterpart in the form of allopathic system of medicine which leads to an 'architectural correction' in the health service envisaged by NRHM. NRHM came in to play in 2005 [2, 3, 4] but implemented at ground level in 2006 and introduced the concept of 'Mainstreaming of AYUSH and Revitalization of Local Health Traditions' [2, 3, 4] to strengthen public health services. This convergence has been envisaged with the following objectives-

- Choice of treatment system to the patients,
- Strengthen facility functionally,
- Strengthen implementation of national health programmes [2, 3, 4, 9]

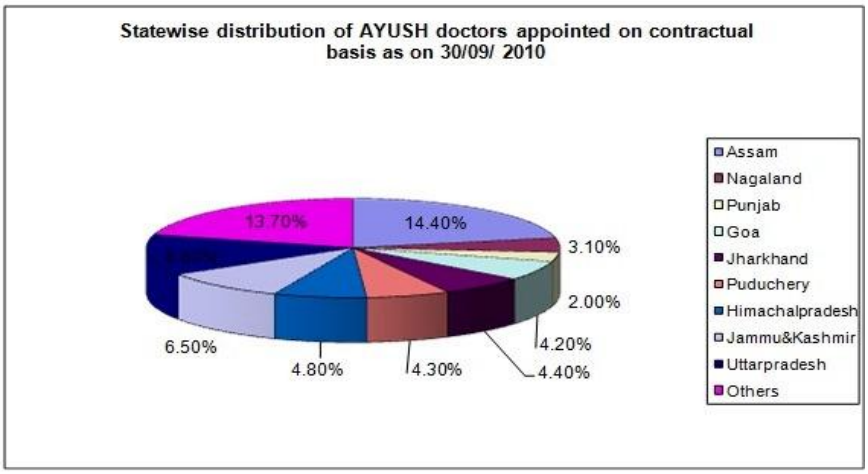

Figure 1: *State Wise Distribution of AYUSH Doctors Appointed on Contractual Basis under NRHM Till 2010*
Source- Department of AYUSH, MOHFW, Govt. of India (AYUSH till 2010) [8]

As on 30/09/2010, contractual appointments of 9578 AYUSH doctors and 3301 AYUSH paramedical staffs have been recorded.

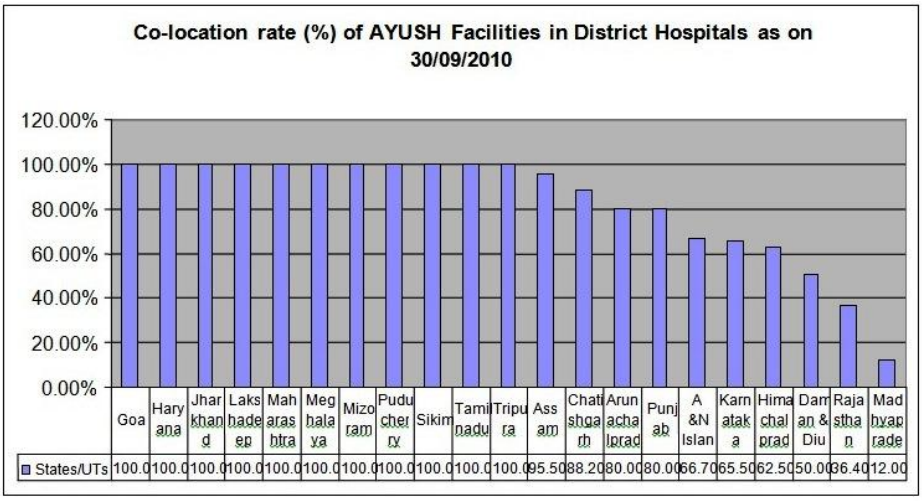

Figure 2: *Collocation Rate (%) of AYUSH Facilities in District Hospitals in Various States and UTs as on 30/09/2010*
Source- Department of AYUSH, MOHFW, Govt. of India (AYUSH till 2010) [8]

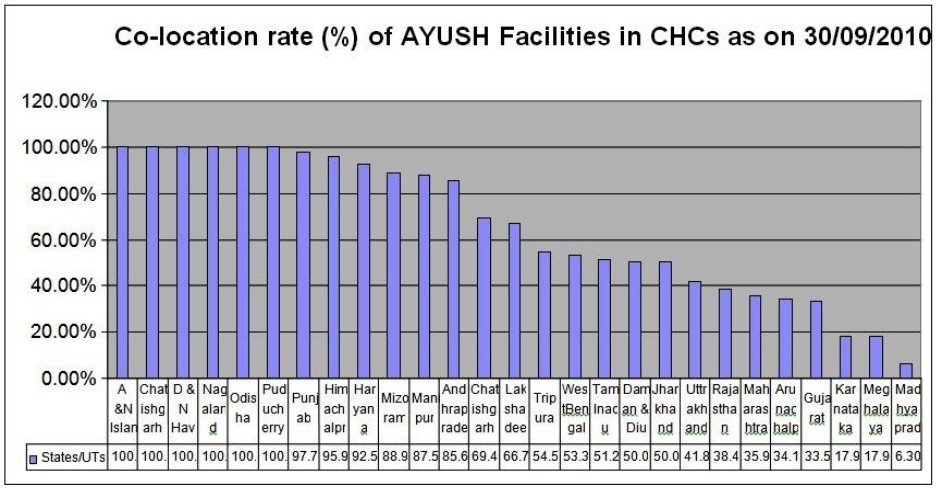

Figure 3: *Co-Location Rate (%) of AYUSH Facilities in CHCs in Various States and UTs as on 30/09/2010*
Source- Department of AYUSH, MOHFW, Govt. of India (AYUSH till 2010) [8]

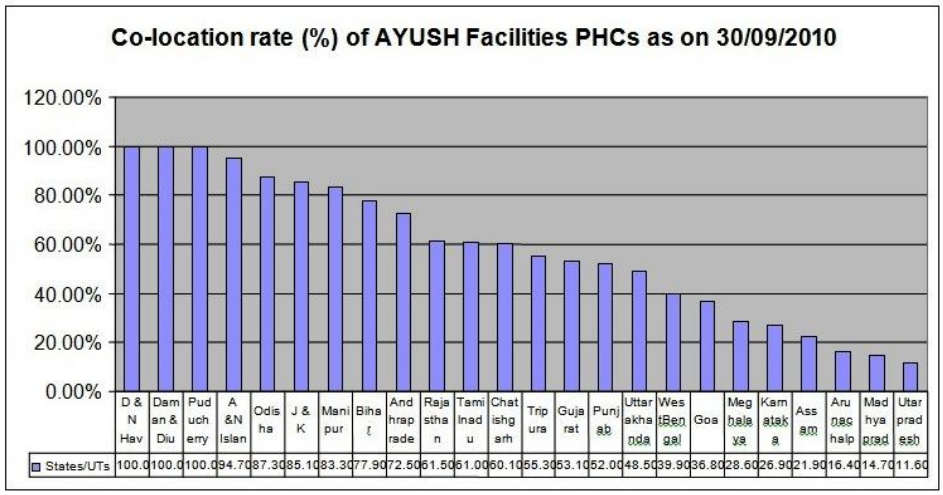

Figure 4: *Collocation Rate (%) of AYUSH Facilities in PHCs in Various States and UTs as on 30/09/2010*
Source- Department of AYUSH, MOHFW, Govt. of India (AYUSH till 2010) [8]

AYUSH facilities had been collocated in 240 district hospitals, 1716 community health centers and 8938 primary health centers in 2010. About 39.8% District Hospitals (DH), 38% Community Health Centers (CHC) and 38.2% Primary Health Centers (PHC) had been collocated with AYUSH facilities by 2010. Figure 2 clearly shows various states/UTs involved in AYUSH collocation in district hospitals whereas 14 out of them had no collocation facility by 2010. Similarly Figure 3 shows collocation in CHCs out of which 8 states/UTs had no involvement and Figure 4 shows collocation in PHCs and again 11 states/UTs had no involvement by 2010.

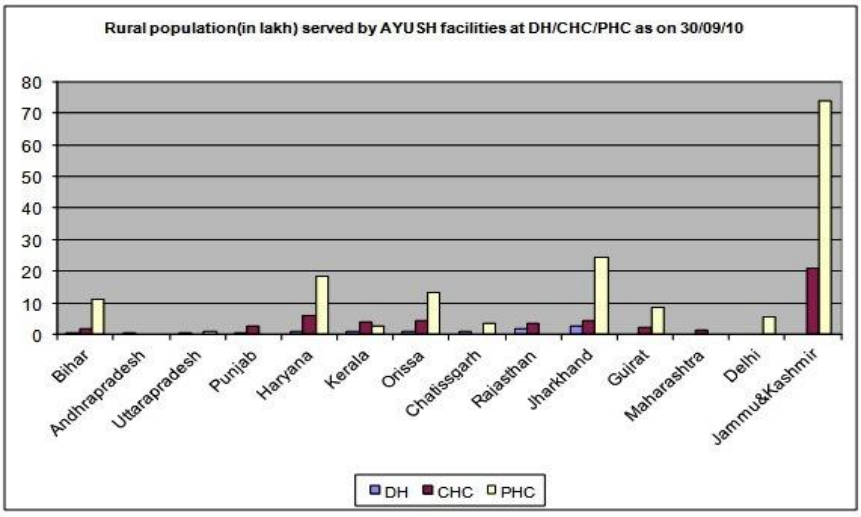

Figure 5: *Rural Population (in Lakh) Served by AYUSH Facilities at Various DH/CHC/PHC as on 30/09/2010*
Source- Department of AYUSH, MOHFW, Govt. of India (AYUSH till 2010) (Data of other States/UTs are not available) [8]

Figure 5 shows the pool of rural population served by District Hospitals, Community Health Centers and Primary Health Centers in various states/UTs. About 30.9 lakhs were being served by District hospitals, 4.3 lakhs of rural population were being served by CHCs and 0.8 lakhs of rural population were being served by PHCs in various states/UTs wherever the corresponding facilities existed.

Estimates show that almost 60% of health workers live in urban areas, which account for 26% of the country's population. Health worker density in urban areas at the rate of 42 per 10,000 is nearly four times higher than rural areas which have only 11.8 workers for a similar size of population, which is geographically more spread out given much lower population densities in rural India. This skew is consistent across cadres. Doctors, both allopathic and AYUSH as well as nurses have a density in urban areas that is three to four times higher than in rural areas [10]. This is one of the major problems faced by the rural population in India. The following tables clearly show a heavy distribution of AYUSH doctors in rural India. Table 2, shows higher population served in rural areas in all the three institutions such as DH, CHC, and PHC where AYUSH facilities are co-located in contrast to health infrastructure without AYUSH facilities. This does not otherwise indicate that AYUSH facilities in rural areas are sufficient enough for equitable health care distribution rather acts as synergist to the existing rural health facilities.

Table 2: *Average Rural Population Served Per Rural Health Infrastructure as* on 30/09/2010 [8]

Sl. No.	Rural Population Served Under Rural Health Infrastructure (in Lakh)			Rural Population Served Under Rural Health Infrastructure Co-Located with AYUSH Facilities (in Lakh)		
	DH	CHC	PHC	DH	CHC	PHC
1	12.3	1.6	0.3	30.9	4.3	0.8

Table 3: *National Level (All India) Contractual Appointments under AYUSH as on 30/09/2010* [8]

Sl. No.	Number of Contractual Appointments Under AYUSH		Percent Distribution of Contractual Appointments Under AYUSH	
	Doctors	Paramedical Staff	Doctors	Paramedical Staff
1	9578	3911	100.0%	100.0%

Another stark observation from the Table 3 is the distribution of AYUSH doctors in rural areas which shows that all parts of the country are fully distributed by the AYUSH doctors. The table illustrates 100% distribution of AYUSH doctors in rural India which literally means no part of the rural India is escaped from health workforce. Here, one can raise a question that, can the AYUSH doctors function as credibly as their allopathic counterparts? The answer to this question is certainly "NO" because of the obvious reasons but comparatively the service rendered by a qualified AYUSH doctor would be better than that of a paramedical staffs in any of the rural health institution where ever a medical officer is absent. Most importantly the TOR (Term of References) of AYUSH doctors is designed in such a manner that they could definitely be able to manage a rural health facility in collaboration with other paramedical staffs. Let us pick up some responsibilities mentioned in the TOR of AYUSH doctors in Orissa; [11] conducting minor surgery, abscess surgery, conducting normal delivery and insertion of IUCD (Intra Uterine Contraceptive Device) are some of the clinical skills that an AYUSH doctor is expected to have to work efficiently in a rural health facility. Similarly planning and implementation of national disease control programme, national health programmes such as immunization programme, Reproductive and Child Health programme, supervision of Village Health Nutrition Day and Pustikar Divas, implementation of IMNCI (Integrated Management of Neonatal and Childhood Illnesses) are some of the public health leadership skills will definitely enable them to provide better health services to the rural population provided these doctors are trained and reoriented from time to time on the above mentioned subject areas.

5. Conclusion

AYUSH workforce could be a better alternative to have equitable health workforce distribution in rural India if proper policy is made towards their recruitment and sustainability. Equitable distribution of health workforce is of paramount importance in achieving both the horizontal and vertical health equity in rural India which is doable with proper implementation of AYUSH workforce. As the curriculum of AYUSH system is different from that of their allopathic counterparts, these doctors need to be reoriented from time to time on certain areas of health care. This will undoubtedly patch up the health workforce inequality and contribute to the equitable distribution of health facilities in rural areas.

References

[1] Gita Sen. *Universal Health Coverage in India: A Long and Winding Road.* Economic and Political Weekly. 2012. XLVII (8).

[2] Govt. of India, 2005: National Rural Health Mission (2005-2012), Mission Document, Ministry of Health and Family Welfare, New Delhi.

[3] National Rural Health Mission, 2005: Framework of Implementation 2005-2012, Ministry of Health & Family Welfare, New Delhi, Government of India.

[4] Ministry of Health and Family Welfare, Mainstreaming of AYUSH under NRHM, Modified Operational Guidelines, (Updated on May 2011) Dept. of AYUSH, New Delhi, Government of India.

[5] Govt. of India, 2010: Bulletin on Rural Health Statistics in India. March, DGHS, New Delhi.

[6] Govt. of India, 2002: Draft of National Policy on ISM&H, Dept. of AYUSH, Ministry of Health and Family Welfare, New Delhi.

[7] Ministry of Health & Family Welfare, Department of AYUSH, New Delhi. http://www.indianmedicine.nic.in

[8] Ministry of Health and Family Welfare, Department of AYUSH., *AYUSH till 2010,* New Delhi Government of India.

[9] National Health System Resource Center-National Rural Health Mission, Mainstreaming of AYUSH and Revitalization of Local Health Traditions under NRHM, An Appraisal of the Annual State Programme Implementation Plans 2007-2010 and Mapping of Technical Assistance Needs. Ministry of Health and Family Welfare, New Delhi, Government of India.

[10] Krishna D. Rao. Situation Analysis of the Health Workforce in India, Human Resources Technical Paper 1, Public Health Foundation of India.

[11] Govt. of Odisha, National Rural Health Mission. 2013. http://www.nrhmorissa.gov.in/writereaddata/Upload/Guidelines/ayushdoc.pdf

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 54-58, Article ID Med-86
ISSN: 2320 – 0251

Research Article | Open Access

A Prospective, Open Label, Observational Study to Assess the Safety and Efficacy of Herbal Cough Syrup Mykoff® in Patients Suffering from Cough of Varied Aetiologies

Mangesh Bhalerao[1], Pradip Awale[2], Abhijeet Sawle[3], Dhananjay Sangle[4], Devendra B. Sonawane[5] and Vilas Chavan[6]

[1, 6]Kalash Pharmachem Pvt. Ltd., Mumbai, Maharashtra, India
[2, 3, 4, 5]Maharashtra University of Health Sciences, Nashik, Maharashtra, India

Correspondence should be addressed to Pradip Awale, pradip.awale@rediffmail.com

Publication Date: 11 June 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-86

Abstract A prospective, open label, observational study was conducted at general outpatient clinic to assess the safety and efficacy of herbal cough syrup Mykoff® in patients suffering from cough of varied aetiologies. The patients of either sex, age > 3yrs, suffering from cough due to common cold, mild to moderate upper respiratory tract infections, allergic cough and smoker's cough were enrolled. The safety was evaluated by means of an analysis of adverse events. In addition, efficacy and tolerability were analysed from the following grades by patients and confirmed by doctor. Of 50 patients, 63% were diagnosed with cough due to upper respiratory tract infections, 17% common cold, 12% allergic cough and 8% smoker's cough. Substantial improvement, i.e., excellent to good response, in relief of cough was noted in 42 (84%) out of 50 patients and fair response in another 4 (8%). Only 4 out of 50 patients showed no relief in symptoms. Most of the patients (98%) accepted the remedy well. Only one adverse event was reported. However, a relation to the medication was classified to be unlikely. The test drug Mykoff® is an effective and safe cough syrup that is highly acceptable for patients with cough of short duration.
Keywords *Cough, Ayurved and Herbal Drug*

1. Introduction

Cough due to upper respiratory tract infections (URTI), Lower respiratory tract infections (LRTIs) and allergies are encountered in general practice. Acute cough is one of the most common complaints prompting patient visits to healthcare professionals. It affects quality of life, school and work productivity, and public health resources.

In Ayurveda cough is being described vividly as a Kasa and Swasa, the same has been carefully divided according to the influence of Kafa, Vata, and Pitta. This classification not only includes the

cough of varied aetiologies, but also addresses the pathophysiological aspects described by modern medicine.

Modern medicines may achieve antitussive, mucolytic and expectorant effect activity, but at the expense of unpleasant or intolerable side effects. These modern medicines may have unpleasant interactions. The long-term use of may result into unpleasant or intolerable side effects. The herbal formulations are safe and effective as it is derived from natural ingredients prescribed in the ancient herbal system of medicines, found to be giving long lasting relief from all kinds of coughs.

Mykoff contains following ingredients, acts on different pathological aspects of cough of varied aetiologies:
Ocimum sanctum (Tulsi) 100mg, Curcuma longa (Haldi) 400mg, Piper longum (Pippali) 50mg, Solanum xanthocarpum (Kantkari) 50mg, Glycerrhiza glabra (Jestimadhu) 100mg, Adhatoda vasica (Adulasa) 800mg, Piper nigrum (Kalimiri) 50 mg, Zingiber officinale (Sunth) 100mg, Mentha arvensis (Pudina Phool) 6mg, Syzygium aromaticum (Lavang) 5 mg and Honey 2 g.

2. Methodology

a) Design: Open label, prospective and observational
b) Subjects: Male/Female in the age group of 3- 75 years
c) Recruitment: The Subjects recruited from Outpatient clinic
d) Inclusion and Exclusion Criteria for Study Subjects:

Inclusion Criteria

- Males or females aged >3yrs
- Suffering from cough due to common cold, mild to moderate upper respiratory tract infections, allergic cough and smoker's cough were enrolled.

Exclusion Criteria

- Patient who is accompanied by the seriously abnormal symptom in respiratory system, such as acute infectious Pulmonary Disease, Tuberculosis and Asthma.
- Chronic bronchitis including bronchial obstruction
- Patient who has clinical history of sensitivity to Mykoff ingredients.
- Patient whose heart, liver or kidney function is seriously abnormal.
- Patient who has experience to have participated in other clinical trial within two months before starting the trial.
- Pregnant woman and lactating woman

e) Study Outcomes:

Primary Outcomes Measures

- The cough severity, frequency (as recorded on Visual Analogue Scale from 0 to 10 cm), chest discomfort, quantity and type of sputum were recorded at screening, on the fourth day and on the seventh day of treatment.

Secondary Outcome Measures

- The acceptability was also studied.

f) Sample Size: 50 patients

g) Dosage and Administration:

Children

From 3 to 5 years: ½ teaspoon thrice daily;
From 6 to 14 years: ½ - 1 teaspoon thrice daily

Adults and Children over 14 years

1 - 2 teaspoons thrice daily

As directed by physician

h) Study Procedures

- The voluntary informed consent was taken before enrollment of the subjects.
- The cough severity, frequency (as recorded on Visual Analogue Scale from 0 to 10 cm), chest discomfort, quantity and type of sputum were recorded at screening, on the fourth day and on the seventh day of treatment.
- The patient recorded the severity and frequency of cough on a Visual Analogue Scale (VAS) which was divided into ten equal parts of 1 cm each and score of 0 to 10. The higher score considered for increased severity and frequency of cough.
- The patient marked the extent of symptoms on this scale at screening, 4th day and 7th of consumption of the cough syrup. The scores were marked on these days and reduction in score was examined for efficacy evaluation of the cough syrup.
- The safety was evaluated by means of an analysis of adverse events.
- Global assessment was based on improvement in symptoms, acceptability and overall efficacy and safety as reported by the physician and the patient were also studied with the help of following grades by patients and confirmed by doctor.

Excellent	Complete relief of symptoms of cough and associated problems
Good	Substantial relief of cough. Night sleep undisturbed
Fair	Partial relief of cough, not reaching the criteria of good response
Poor	No relief or deterioration of cough bouts

i) Statistics

The paired Student's t-test was used to identify significant differences between before and after treatment Visual Analogue score and values expressed as the means ± SD. The differences considered statistically significant at $p < 0.05$. (Table 2)

3. Results

Out of 50 patients, 63% were diagnosed with cough due to upper respiratory tract infections, 17% common cold, 12% allergic cough and 8% smoker's cough. (Table 1)

46 of 50 patients studied showed a significant decrease in the frequency and severity of cough (on Visual Analogue Scale). The sputum quantity and consistency also showed steady decrease and liquefaction respectively.

Table 1: *Patients' Characteristics*

Characteristic/Disease	***(n=50)***
Cough due to upper respiratory tract infections	63% (n=32)
Common cold	17% (n=8)
Allergic cough	12% (n=6)
Smoker's cough	8% (n=4)

Four patients who had longer duration of did not respond adequately to treatment.
All patients described a soothing effect of the study drug and appreciated the colour and flavour of Mykoff®.

Global assessment was based on improvement in symptoms, acceptability, overall efficacy and safety as graded by patients and confirmed by doctor. The substantial improvement, i.e., excellent to good response, in relief of cough was noted in 42 (84%) out of 50 patients and fair response in another 4 (8%). Only 4 out of 50 patients showed no relief in symptoms. (Table 3)

The investigator in charge of the patients rated the trial medicine as excellent in 38 cases, good in 8 cases, fair in 2 cases and poor in 2 cases. Most of the patients (98%) accepted the remedy well. Only one adverse event was reported. However, a relation to the medication was classified to be unlikely.

Table 2: *Visual Analogue Scale*

Visual Analogue Scale*			
	Day 0 (Screening)	4^{th} Day	7^{th} Day
Cough Severity (mean ± SD)	8.34±1.18*	6.72±0.94*	2.9±1.03*
Cough Frequency (mean ±SD)	8.42±1.18*	7.14±1.34*	3.12±0.87*
Chest discomfort (mean ±SD)	8.7±1.3**	7.88±1.3**	3.72±1.05*
* p<0.001, Day 0 vs.4^{th} Day vs.7^{th} Day.** p< 0.05, Day 0 vs. 4^{th} Day			

Table 3: *Responses to Mykoff®*

Responses to Mykoff®				
Conditions	Excellent	Good	Fair	Poor
Common cold	1	12	2	0
Allergic cough	1	5	0	2
Upper respiratory infection	3	13	2	0
Smoker's cough	1	6	0	2
Total	6	36	4	4

4. Discussion

The patients studied showed a significant decrease in the frequency and severity of cough on Visual Analogue Scale (Table 2). The sputum quantity and consistency also showed steady decrease and liquefaction respectively. Global assessment was based on improvement in symptoms, acceptability, overall efficacy and safety as graded by patients and confirmed by doctor. The substantial improvement, i.e., excellent to good response, in relief of cough was noted in 42 (84%) out of 50 patients and fair response in another 4 (8%). Only 4 out of 50 patients showed no relief in symptoms. The results in present study can be attributed to the different ingredients which act on the different pathological aspects. This cough syrup contains several ingredients, which acts on the different aspects of Pathophysiology involved in the dry as well as productive cough. These pharmacological

actions can be elaborated as follows. Adhatoda being a very good expectorant and bronchodilator, it draws out all phlegm accumulated in the lungs [1]. Ocimum sanctum by traditional medical practitioners as expectorant, antiasthmatic, diaphoretic, and antistress agents [2]. Curcuma longa has been tested in airway hyper responsiveness. It has significant anti-inflammatory activity in both exudative and proliferative inflammation [3]. Solanum xanthocarpum found to be effective immune-stimulatory with cough relieving in bronchial asthma. Piper longum found to be anti-allergic, anti-asthmatic and bronchodilator [3]. Glycerrhiza glabra is used as a demulcent, soothing, cooling, anti-inflammatory, and expectorant [3]. Zingiber officinale have activities with broad applicability in the field of inhibition and treatment of infections by pathogenic microorganisms including viruses and bacteria [3]. Mentha Arvensis shows slight anaesthetic, and anodyne local effect [4]. Syzygium Aromaticum relieves the pain of sore throat. It has antimicrobial, antiviral, anti-inflammatory, antioxidant, antispasmodic, carminative, and stomachic activities. It augments appetite, promotes digestion, and alleviates cough and asthma. The relieving effect of honey has been known to be from its antioxidant and cytokine-releasing features, thus justifying its antimicrobial effect. Honey reduces upper respiratory infection and inflammation due to fact that it offers antibacterial activity, immunomodulation and helps to provide a protective barrier to prevent infection [5]. With regards to above mentioned multi-factorial action of Mykoff, this remedy can be used for productive as well as dry cough. This herbal remedy is safe and effective as it is derived from natural ingredients prescribed in the ancient herbal system of medicines. It gives long lasting relief from different kinds of coughs.

5. Conclusion

The Mykoff® was found to be effective in terms of relieving symptoms associated with cough of varied etiologies. Indeed Mykoff® found to be safe and highly acceptable for patients with cough of varied etiologies. It was well tolerated without significant adverse event. The herbal formulations can be considered as a safer and effective alternative in the treatment of cough.

6. Acknowledgment

This study was sponsored by Kalash Pharmachem Pvt. Ltd., Mumbai, Maharashtra, India.

References

[1] K.P. Sampath Kumar. *Indian Traditional Herbs Adhatoda Vasica and Its Medicinal Application.* J. Chem. Pharm. Res. 2010. 2 (1) 240-245.

[2] P. Prakash. *Therapeutic Uses of Ocimum Sanctum Linn (Tulsi) With a Note on Eugenol and Its Pharmacological Action: A Short Review*. Indian J Physiol Pharmacol. 2005. 49 (2) 125-131.

[3] Nisha Ojha. *Management of Respiratory Allergic Disorder (RADS) in Children: Some Clinical and Experimental Experiences from Ayurveda*. Journal of Herbal Medicine and Toxicology. 2011. 5 (1) 103-109.

[4] M. Akram. *Mentha Arvensis Linn.: A Review Article*. Journal of Medicinal Plants Research. 2011. 5 (18) 4499-4503.

[5] Mahmood Noori Shadkam. *A Comparison of the Effect of Honey, Dextromethorphan, and Diphenhydramine on Nightly Cough and Sleep Quality in Children and Their Parents*. Journal of Alternative and Complementary Medicine. 2010. 16 (7) 787-793.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 99-104, Article ID Med-92
ISSN: 2320 – 0251

Review Article | Open Access

The Historic Panorama of Acne Vulgaris

Humyra Tabasum[1], Tanzeel Ahmad[1], Farzana Anjum[2] and Hina Rehman[2]

[1]Department of Moalajat (Medicine), National Institute of Unani Medicine, Bangalore, Karnataka, India
[2]Department of OBG, National Institute of Unani medicine, Bangalore, Karnataka, India

Correspondence should be addressed to Humyra Tabasum, humyranium11@gmail.com

Publication Date: 2 September 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-92

Abstract Although acne is described in very ancient writings dating back to Eber's Papyrus, its clear description is found after Fuch's coined the term 'Acne Vulgaris' and Erasmus Wilson separated it from acne rosacea. The early treatment of acne was based upon the witchcraft. Later new therapies got evolved with the discoveries in the field of anatomy, physiology and biochemistry. The following review focuses the historical overview of acne vulgaris, highlighting persons and discoveries in medival and modern period.
Keywords *Acne Vulgaris, Busoore Labaniya, Greco-Arabic Medicine*

1. Introduction

Acne is the most common infuriating skin disorder for dermatological consultation affecting all age groups and races [1]. It usually involves face but may also affect back and chest of the individual. It is characterized by non inflammatory and inflammatory lesions viz. open and closed comedones, papules, pustules, nodules and occasionally cysts [2]. Severe acne is associated with permanent scarring with abiding psychosocial distress encompassing negative impact on mood, self esteem and other quality of life parameters [3]. It usually affects the young people at an age when they are most sensitive to any disfigurement [4]. The worldwide cost for acne treatment was calculated as 12.6% of overall costs for dermatological treatments [5]. It has been averred that in America, more than 5 million dermatological consultations are made by acne patients annually that contribute to an annual loss of $2 million [6].

Acne is well known since ancient times and is avowed to affect people even before humans could write [7, 8]. Since it has a long history, hence is now known as one of the world's most common skin disorder. From the oldest, and older, acne breakouts are contemplating a contagious skin state that can ruin the complexion of the individual [7]. The roots of acne have been traced all the way to three well known ancient civilizations viz, Egyptians, Greeks and Romans.

2. Acne in Ancient Egypt

Some Egyptian writings have mentioned that Pharaohs suffered from acne and had also made efforts to resolve it. Many stories and superstitious beliefs were related to the cause, clinical presentation and treatment of the acne breakouts. Those were accustomed to magic, spells and charms to drive it [7, 8]. In Ebers Papyrus the word 'aku-t' is cited that was later translated as 'boils, blains, sores, pustules or any inflammatory swelling' and is described to be treated with some animal origin preparations and honey [9]. Ancient Egyptians around 3rd century were of the opinion that acne is caused by telling lies [7]. Tutankhamun, Egyptian Pharaoh of the 18th dynasty who ruled during the period between 1332 BC - 1323 BC, had acne as evident from the anti acne remedies in his tomb [4].

3. Acne in Ancient Greek

The earliest description of acne appeared in the ancient Greek writings of the Byzantine physician Aetius Amidenus [10]. The word 'acne' appears to evolve from Greek word 'acme' which means 'point or spot' [11]. Several writers were of the opinion that it originated from a Greek work meaning 'anything that comes off the surface'. From the historical records, both Hippocrates and Aristotle were aware of this illness. Aristotle also explained this condition in detail. The ancient Greeks knew acne as 'tovoot'. According to the meaning of this word in the singular as 'the first growth of the beard' hence it was associated with puberty. In 2 AD the meaning of acne appeared to be widened to include the height or apogee of growth and development and thus 'puberty'. It is in this meaning that it first appeared in relation to 'tovoot' in the works of Greek rhetorician Julius Pollux. The early Greeks also confined the words 'ionthoi' and 'vari' to puberty. Later in 7 AD Palus Aegineta, last of the Greek compilers in the Byzantine period, favouring the views of Galen regarding the 'ionthoi' and recommended honey for softer lesions and a mixture in soap base for harder ones [9].

4. Acne in Ancient Rome

Ancient Romans has guided initial treatment of acne [7]. In ancient Rome, acne was treated with baths as people there believed that the pores of the skin may be lifted and cleaned with a mixture of sulfur in the mineral baths [7, 8]. Aulus Cornelius Celsus (25BC- 50BC), a Roman encyclopaedist, has mentioned about this treatment in his extant medical work *De Medicina* [8]. Cassius in 3 AD interpreted that since this disorder is related to puberty, it is known by the name of 'akmas' [9]. In the 4th century AD, the court physician of Theodosius advised acne victims to wipe their "pimples" with a cloth while watching a falling star and the pimples would then 'fall from the body' [4]. Pliny and Celsus used the word 'varus' to elucidate this ailment. Until 5 AD, the word acne was considered as misrepresentation of 'acme'. Aetius, an emperor Justinian's physician, used the word acne for the first time after asserting that 'acme' was a misprinting. Galen was the first to suggest that 'ionthoi' might comprise more than one disorder and suggested different preparations for the two types of 'ionthoi' based upon consistency of nodules [9].

5. Acne in Greco-Arabic Medicine

Renowned Greco-Arabic (Unani) scholars have described a dermatological condition '*Busoore labaniya*' in their exemplary texts with clinical resemblance to present day 'acne vulgaris'. Rabban Tabari (770-850 AD) in his legendary treatise 'Firdous al Hikmah' (*Paradise of Wisdom*) explicated a vivid description of Sebaceous glands [11]. Sabit Bin Qurrah (836-901 AD) has described various formulations for treatment of small eruptions (*funsi*) over the face [13]. Zakariya Razi (850-923 AD) also known as Rhazes explined treatment of *Busoore labaniya* (acne) appearing over the face and nose in his prodigious text Al Hawi (*The Virtuous Life*) [14]. Ibn Sina (980-1037) also known as

Avicenna in his legendary text 'Al Qanoon Fil Tib' (*The Cannon of Medicine*) has depicted the etiopathogenesis and clinical presentation of *Busoore labaniya* (acne) [15]. Ibn Hubl (1122-1213) transcribed in his treatise 'Kitab al Mukhtarat Fil Tib' (*The selected or choice book in medicine*) the clinical presentation and cause of *Busoore labaniya* (acne vulgaris) [16]. Abu Al Hassan Al Jurjani (12th century AD) in his monumental omnibus 'Zakira Khawarzam Shahi' (*Thesaurus of the Shah of Khawarazam*) has described the etiology of eruptions over the skin surface [17]. Dau'd Antaki (1541 AD died 1599) also referred as David of Antioch in his historic text 'Tazkirah oolil albab' has revealed the humoral cause of acne [18]. Akbar Arzani (1772 AD) and Hkm Azam Khan (1813-1902 AD) have distinctly expounded the clinical presentation of acne in their texts 'Tibe akbar', 'Meezan al tib' and 'Akseer azam' [19-21].

6. Acne in Elizabethan era

In the Elizabethan era (1558–1603), the appearance of women was given primordial importance. An extremely pale complexion was an indication of the elite and hence women began acquainted to the use of layers of Venetian Ceruse, a thick, white lead based paint that provided a perfect breeding ground for acne. Acne at that time was also contributed to witchcraft. For the management of these pimples, different type of mercury make up was also in use. The caustic mercury erodes the flesh. Hence forth, people restored to the sulfur treatments of antique times [10]. Daniel Sennert (1572-1637), quoting the views of Theocritus and Rhodiginus, dealt with acne and rosacea under the same heading [9].

Riolanus and Jonston associated acne with disorders of menstruation in 1638 and 1648 respectively. Jonston (1648) also linked acne with heterosexual behaviour pattern in a manner very close to present day psychosomatic ideas on the subject. He also quoted that 'Vari are tiny hard tumours on the skin of the face curdled up of a hard thick juice. They are about the size of a hemp seed, and they infect young people, who are inclined to venery and fruitful, but chast withal and continent' [9].

Daniel Turner in 1714 quoted that most physicians of the time considered the treatment of such minor conditions beneath their dignity, but in the latter half of the century management of these diseases became popular. Sauvages following the ideas of the Theocritus, Rhodiginus and Sennert approached to the problem and was doubtful about including the Gutta Rosae of wine bibbers in the same category as ordinary acne. In 1783, Plenck subdivided the Gutta Rosacea (or Rosae) into nine types. Willan (1778-1821) and Bateman (1757-1812) divided the acne in the view of 'ionthoi' or 'vari' into three types: simplex, punctata and indurate according to the type of lesions. They were of opinion that the fourth member of this group is the Gutta Rosea or Gutta Rosacea of the ancient physicians and called it 'acne rosacea'. These also explained the essential differences between acne rosacea and other three members of the group. The first three conditions were considered as local lesions and treated with topical medicaments while as acne rosacea was regarded as a symptom of functional disorders of liver or stomach [9].

In the next few decades the literature on acne became voluminous with contrasting views especially on the subject of classification and nomenclature. There were arguments in relation to the primary lesion of acne; either it is pustule or papule; whether all pustular conditions over the face should be called acne; whether it was necessary for any lesion to have a red areola for it to qualify for the name acne and so on. In 1840 AD, Fuchs used the term 'Acne vulgaris' for the first time and divided acne into acne vulgaris, acne mentagra and acne rosacea [9]. In 1842, Erasmus Wilson separated acne simplex (acne vulgaris) from acne rosacea [22].

Baumes' P. in 1842 AD enlisted the predisposing factors that were mentioned by writers of that period viz., constitutional factors, mode of life, and use of cosmetics, affections of the alimentary tract, menstrual abnormalities and supposedly abnormal sexual behavior [9]. In the same year Gustav Simon, put forward his views that the disease primarily involves hair follicle and was also among the first ones to discover the 'acarus' or 'Demodex folliculorum' which he thought might be an etiological factor. The views of Gustav Simon were later disproved by Erasmus Wilson (1809-1884). In supporting the opposing view that the sebaceous glands were disordered, he referred to the normal lubrication of the skin by the sebum and stated 'But in the inhabitants of cities and towns in the midst of the sedentary and irregular habits of refined society, and of the mental wear and tear of practical life, such a state of the unctuous system of the skin as I am now describing rarely or never exists' [9].

In 1920, Jack Breitbart of the Revlon Corporation invented benzoyl peroxide for the treatment of acne. Breitbart realized that this product was more effective and smelled better than the sulfur treatments of the past [10]. Around 1930, laxatives were in common use for treatment of acne [8]. In 1950s Tetracycline was for the first time prescribed for acne as it was noticed that acne was caused by bacteria. In 1960s, the topical treatment Retin-A was developed to alleviate acne. Retin-A has produced great results and is still in use [10]. Plewig G and Kligman A M in 1975 disagreed with the FDA's recommendations of sulfur products. They believed that it may aggravate rather than help acne [4]. In 1980s, a novel medication Accutane (Isotretinoin) for acne appeared in the markets of America. It was found extremely effective but severe side effects were also noted viz., stroke, seizure, heart attack and hair loss. Women were advised contraception for up to six months following discontinuation of the therapy [10]. In 1990, laser therapy made its evolvement in treating acne and is now widely used remedy as it clears the recent as well as old scars left by acne besides active lesions. In 2000, the blue/red therapy was developed along with laser therapy for easy treatment of acne [8]. Microneedling with dermaroller emerged as a novel treatment modality for the treatment of acne scars. Orentreich first described subcision or dermal needling in 1995 for scars and most recently, Fernandes, in 2006, developed percutaneous collagen induction therapy with the dermaroller [23]. In 2007, a vaccine against inflammatory acne has been tested successfully in mice, but is yet to be tested in humans [24].

7. Conclusion

Acne vulgaris also known as common acne is the most common pattern of acne that usually involves the teenagers. The term "acne vulgaris" implies the presence of micro comedones that contribute to the formation of acne. Finally, Acne is a common annoying skin disorder affecting individuals from ancient ages. Although rarely life threatening, it poses significant psychological morbidity. Henceforth, it is believed that references of this disorder will be present in all civilized communities. Acne has been given paramount importance within cultures and hence it has a history that dates back to prehistoric times at one end and into the 20th century at the other.

References

[1] Davis E.C., et al. *A Review of Acne in Ethnic Skin: Pathogenesis, Clinical Manifestations, and Management Strategies*. J Clin Aesthetic Dermatol. 2010. 3 (4) 24-38.

[2] Fabbrocini G., et al. *Acne Scars: Pathogenesis, Classification and Treatment*. Dermatology Research and Practice. 2010. 1-13.

[3] Del Rossso J.Q., 2007: *Acne Vulgaris and Rosacea*. *ACP Medicine*. WebMD, New York. Section 2, Chapter 12.

[4] Garfield E. *Current Comments: Acne Vulgaris- the Adolescent's Albatross*. Essays of An information Scientist. 1981-82. 5; 364-72.

[5] Zouboulis C.C., et al. *What is the Pathogenesis of Acne?* Exp Dermatol. 2005. 14; 143-52.

[6] Larson S.K., et al. *Acne Vulgaris: Pathogenesis, Treatment and Needs Assessment*. Dermatol Clin. 2012. 30; 99-106.

[7] Coan L., 2005: *History of Acne.* Article Dashboard. http://www.articledashboard.com/Article/History-Of-Acne/2912672

[8] Sern J., 2007: *The History of Acne.* Article Dashboard. http://johnsern.articlealley.com/the-history-of-acne-223237.html

[9] Grant RNR. *The Section of the History of Medicine: The History of Acne*. Proceedings of Royal Society of Medicine. 1951. 44; 649-52.

[10] Monroe H. *Acne Cures from the Past*. eHow Style, Demand Media, Inc. http://www.ehow.com/way_5279747_acne-cures-past.htmls.

[11] History of Acne and Its Treatment. Best Acne Treatment http://www.bestacnetreatment.org/history-of-acne-and-its-treatment.

[12] Tabri R., 2010: *Firdaus Al Hikmat* (Urdu Translation by Nadvi HRS). CCRUM, Ministry of Health and Family Welfare, New Delhi, 128.

[13] Qurrah S.I., 1987: *Tarjumae Zakheera Sabit Ibne Qurrah* (Urdu Translation by Hakeem S.A., Ali) Litho Colour Printers Aligarh, AMU, Aligarh, 33-34.

[14] Razi AMBZ., 1994: *Al Hawi Fil Tib* (Urdu Translation by Hakeem M.Y., Siddiqui). Saba Publishers Aligarh, AMU, Aligarh, 23; 36-37.

[15] Ibn Sina., 2010: *Al Qanoon Fil Tib*. Idara Kitab ul Shifa, New Delhi, 1432.

[16] Ibn Hubl., 2005: *Kitab Al Mukhtarat fil tib*. CCRUM, Ministry of Health and Family Welfare', Govt. of India. New Delhi, 4; 188-189, 32.

[17] Jurjani I., 2010: *Zakheera Khawarzam Shahi* (Urdu Translation by Khan H.H). Idara Kitab us Shifa, New Delhi. 2 (6) 13-16.

[18] Antaki D., 2010: *Tazkirah Oolil Albab* (Arabic). CCRUM, Ministry of Health and Family Welfare, New Delhi, 2; 87.

[19] Arzani A., 2001: *Mizanut Tib* (Urdu Translation by Kabeeruddeen H.M). Idara Kitab us shifa, New Delhi, 249.

[20] Arzani A. *Tibe Akbar* (Urdu Translation by Hussain M). Deoband: Faisal Publications; YNM, 722.

[21] Khan A., 1917: *Akseer Azam*. Matab Munshi Naval Kishore, Lucknow. 4; 450-1.

[22] Bolognia J.L, et al., 2008: *Dermatology*. History. 2nd Ed. Mosby Elsevier, USA.

[23] Doddaballapur S. *Microneedling with Dermaroller*. J Cut Aesthet Surg. 2009. 2 (2) 110-11.

[24] Nakatsuji T., et al. *Antibodies Elicited by Inactivated Propionibacterium Acnes- Based Vaccines in Exert Protective Immunity and Attenuate the IL-8 Production in Human Sebocytes: Relevance to Therapy for Acne Vulgaris*. J Invest Dermatol. 2008. 128 (10) 2451-7.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 105-111, Article ID Med-93
ISSN: 2320 – 0251

Cloud Publications

Research Article **Open Access**

Comparative Study of CNS Effects of Opium in Homeopathic Potencies with Pentazocine in Mice

Karandikar Y.S.[1], Bhagat V.A.[2] and Mate V.H.[1]

[1]Department of Pharmacology, B.V.D.U. Medical College, Pune, Maharashtra, India
[2]Department of Anatomy, B.V.D.U. Medical College, Pune, Maharashtra, India

Correspondence should be addressed to Karandikar Y.S., Karandikar_yogita@yahoo.com

Publication Date: 7 September 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-93

Abstract Opium is a drug being used in modern medicine as well as in homeopathy. Despite of the same source, both the pathies have different principles and indications. Opium is an alkaloid having main action on CNS. So in this study, we evaluated the effect of different dilutions of Opium in homeopathic potencies on CNS in mice and compared with that of Pentazocine. We divided forty mice of either sex into 7 groups (6c, 30c, 200c, 1 M, 0/1 LM, dispensing alcohol, Pentazocine). Test drugs were given orally. Different actions on CNS were evaluated by using Actophotometer for locomotor activity, Analgesiometer for analgesic activity and Straub test for opioid. Our result showed that pharmacological actions of Opium seen in modern medicine were not seen with different dilutions of Opium, in homeopathic potencies. 30c and 200c dilutions may be having secondary curative that is CNS stimulant action (reversal of CNS depression due to alcohol) as per homeopathic principles.
Keywords *Opium, Homeopathic Drugs, Locomotor Activity*

1. Introduction

Homeopathy is a form of an alternative medicine, first proposed by German physician Samuel Hahnemann in 1796, in which practitioners use homeopathic medicines in highly diluted preparations. It is based on the principle of law of similar. Homeopathic medicines, which produce certain symptoms in healthy individuals, are given in diluted form to the patients having similar symptoms. Homeopathic remedies are prepared by serial dilutions by giving forceful strokes, i.e. (succussion) [2] after each dilution under the assumption that this increases the effect. Dilution often continues until none of the original substance remains.

Depending on the dilution, homeopathic remedies may not contain any pharmacologically active molecules and for such remedies to have pharmacological effect would violate fundamental principles of science. Modern homeopaths have proposed that water has a memory [3] that allows homeopathic preparations to work without any of the original substance or the duality of action theory [4] however; there are no verified observations or scientifically plausible physical mechanisms for such a

phenomenon. While some individual studies have positive results, systematic reviews of published trials fail to demonstrate its efficacy conclusively [5, 6]. Furthermore, higher quality trials tend to report less positive results, and most positive studies have not been replicated or show methodological problems [6]. The lack of convincing scientific evidence supporting homeopathy's efficacy use of remedies lacking active ingredients have caused homeopathy to be described as pseudoscience, quackery, and a cruel deception.

Opium is an alkaloid derived from plant source [7], and is being used in modern medicine as well as in homeopathy. Despite the same source, the indications in both the pathies are different. Opium has main action on central nervous system. In homeopathy, opium is used for painless condition, drowsy or sleepy people, for apoplexy, constipation, typhoid and colic [8]. But systematic research work has not been done to evaluate the effect of different dilutions or whether effects are comparable with that of morphine. So preclinical animal experiments are necessary to evaluate whether these dilutions really have action or not.

So this study was undertaken with the aim to evaluate the effect of different dilutions of opium (6c, 30C, 200c, 1M, 0/1LM -homeopathic preparation) on CNS in mice and to compare these actions with conventional mixed opioid agonist-antagonist Pentazocine, used in modern medicine.

2. Materials and Methods

Study was initiated after Institutional Animal Ethics Committee approval (5/2010). Mice of either sex weighing 20-40 grams were divided into Seven groups with 6 animals in each group (6c, 30c, 200c, 1 M, 0/1 LM, dispensing alcohol, Pentazocine).

They were housed in animal room, with alternating light-dark cycle of 12 hr each. All the drugs in homeopathic potencies were given orally 0.2ml, by mice feeding needle. All drugs were provided by Homeopathy College, BVDU, Pune.

Following tests were performed to compare activity of opium in various homeopathic potencies with conventional mixed opioid agonist-antagonist, Pentazocine.

2.1. Locomotor Activity

Mice pretreated with drugs or control were placed in locomotor activity chamber to which photoelectric cells were attached (Digital Actophotometer). Locomotor activities of the mice were recorded over a period of 10 minutes. Difference in the activity before and after giving drugs was calculated.

2.2. Hot Plate Method

Mice were divided into seven groups as mentioned above. Animals were placed on the hotplate which was maintained at 55ºC. The time between placement on the hot plate and the occurrence of either licking of the paws, shaking or jumping off from the plate was recorded as response latency. Reaction time for licking or lifting of fore & hind paws was calculated before & after giving the drug i.p. at 30, 60, 120 min. A cut off time of 30 sec was followed to avoid any thermal injury to the paws.

2.3. Straub's Test

All the groups were given respective drug subcutaneously. The observations were continued for a period of 30 min following injections. Tail rose vertically (angle>45) was considered as + positive Straub test. The mice from (all groups) were scored all or none for straub`s tail reaction.

2.4. Statistics

One way analysis of Variance (ANOVA) followed by Dunnett test was used for statistical analysis by using graph pad prism version 5.

3. Results

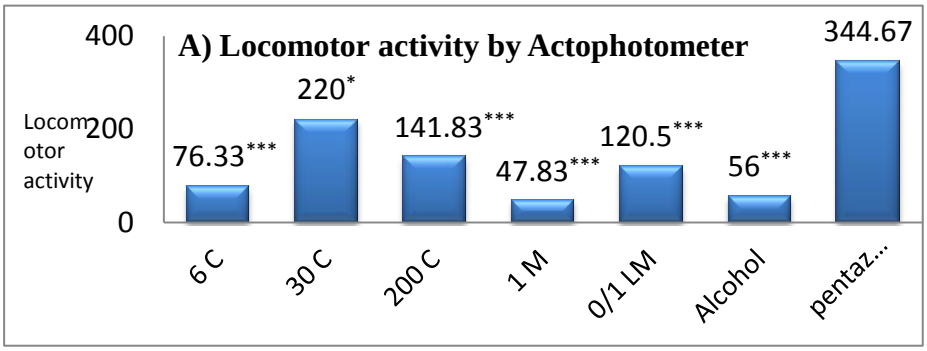

Figure 1: *Locomotor Activity by Actophotometer*

Maximum CNS depressant activity was seen in 1M, alcohol and 6c group.

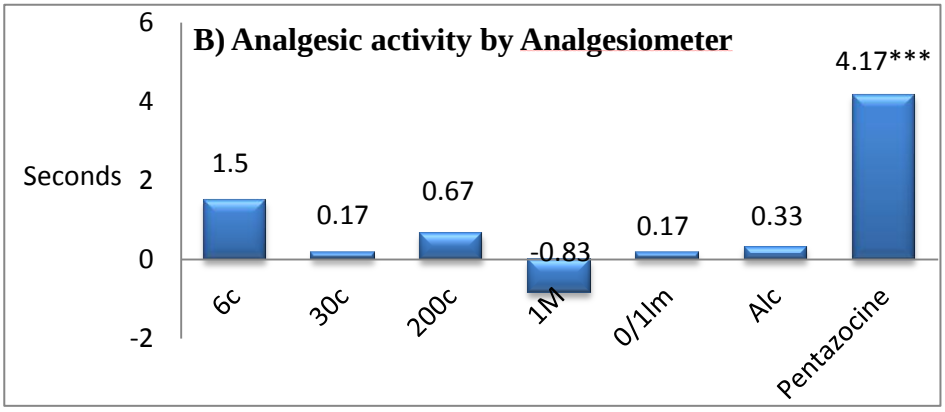

Figure 2: *Analgesic Activity by Analgesiometer*

No statistically significant analgesic activity was seen with Opium in any homeopathic potency.

Table 1: *Straub Test*

Drug	6c	30c	200c	1M	0/ 1lm	Alc	Pentazocine
% of mice showing + straub`s test	16.67	0	0	0	0	0	66.6666667

Straub's test was negative with Opium in all homeopathic potencies.

4. Discussion

Opium is an extract of the exudates derived from seedpods of the Opium poppy, Papaver somniferum. Opium is a complex chemical cocktail containing sugars, proteins, fats, water, meconic acid, wax, latex, gums, ammonia, sulphuric and lactic acids, and numerous alkaloids, most notably morphine (10% - 15%), codeine (1% - 3%), noscapine (4% - 8%), papaverine (1% - 3%) and the baine (1% - 2%) [12]. All of the latter, apart from the baine, are used medicinally as analgesics. Morphine is by far the most prevalent and important alkaloid in opium. It binds to and activates μ-opioid receptors in the brain, spinal cord, stomach and intestine [13].

In modern medicine Opium and its derivatives are used medicinally as analgesics. The opioid analgesics are of inestimable value because they reduce or abolish pain without causing loss of consciousness. They also relieve cough, spasm, fever and diarrhea [13]. Opium is also one of the chief remedies of materia medica in homeopathy used for comatose conditions, painless condition, drowsy or sleepy people, for apoplexy, constipation, typhoid, colic in homeopathy [8]. Source is same (seedpods of the Opium poppy, Papaver somniferum) even for homeopathic preparation [8].

4.1. Locomotor Activity

As in both the pathies Opium is used for its CNS action hence we explored the effect of drug on locomotor activity. As seen in results, significant difference was seen in locomotor activity amongst all groups. Lowest activity (CNS depression) was seen with 6c, 1M and alcohol group (Figure 1). 6c is the only group which contain detectable amount of Opium [14]. Decrease in locomotor activity in this group may be related to additive action of Opium and alcohol as both drugs have CNS depressant action [15]. 30c, 200c and 1M also showed gradually decreasing CNS depressant action but less CNS depressant action than 6c and alcohol. Though these potencies do not contain any drug (below Avogadro's number) [16]. As dilution increases potency go on increasing as per homeopathic principle. CNS depressant activity was seen may be due to increase in potency or due to presence of alcohol. Decrease motor activity seen in 0/1LM group is in fact it is different scale and 0/1LM similar to mother tincture may be having detectable amount of drug [17]. All homeopathic drugs used dispensing alcohol for their preparation. As Opium is class IV drug [14] - (1:5 powdered drug + strong alcohol 88%) dispensing alcohol is used as vehicle. Same we used for control group. CNS depressant activity may be due to its alcoholic content. The role of alcohol in homeopathic preparation remains to be explored. CNS depressant activity is correlated more with presence of alcohol.

Surprisingly when CNS depression was compared among all groups, more locomotor activity (less CNS depression) was seen in all opium groups than dispensing alcohol group as shown in Figure 1. This may be due to the dual nature of opium that is drug may be reversing the effect of alcohol when given together. This is also called as secondary curative action [18] which was seen particularly with 30c and 200c group (Figure 1). According to homeopathic principle, each drug have two actions; primary action which produces certain symptoms in pharmacological doses and secondary action that produces exactly opposite set of symptoms where drug is given in very small/diluted doses.

This Fundamental claim of homeopathy is based on the principle that smaller doses produce stimulating effect on biological activity and higher doses cause inhibition.

Example, primary action of opium is deep sleep, constipation and secondary action of opium is long lasting wakefulness and diarrhea [19]. Our results indicate that CNS depressant activity of alcohol is reversed or decreased by 30c and 200c groups of homeopathic preparations. These observations are in accordance with Hanheman who advocated 30c dilution for most of the purpose [20]. In materia medica it is mentioned that opium is used for comatose patient or for sopor, painlessness, apoplexy etc. [8]. This use may be related to secondary curative action of opium as mentioned above.

4.2. Analgesic Activity

In Hot plate model, nociceptive reaction toward thermal stimuli in mice is a well validated model for detection of opiate analgesics as well as several types of analgesic drugs from spinal origin [9]. No statistically significant analgesic activity was seen with opium in all homeopathic potencies whereas Pentazocine showed significant analgesic activity (Figure 2). In homeopathy, opium does not have any analgesic indication [19]. This is also according to modern medicine principle that drug will produce its action only if it is given in certain amount. (Pharmacological doses)

4.3. Straub's Test

Which is characteristic for opioid group showed negative results by all homeopathic preparations (Table 1) as these preparations do not contain any active ingredient to act on opioid receptors present on anococcygeus muscle.

4.4. Summary

These differences in all above mentioned tests are due to the fact that homeopathic drug do not contain any significant amount of drug or drug properties are lost while preparation. So conventional CNS actions of Opium (analgesic, CNS depression) as seen in allopathic medicine was not seen with different dilutions of Opium in homeopathic potencies. But only secondary curative action of Opium was seen in our findings. This may be due to the method of preparation of homeopathic drugs, that is Potentisation-(Dilution) and Succussion-Forceful striking (liquid Vehicle)

It is well mentioned in literature that after forceful striking, power of the medicine increases. Shaking and agitating the mixture is an important part of the potentiating process. Samuel Hahnemann believed that this was a key part of the homeopathic practice and that it would "release dynamic forces from the diluents which were preserved and intensified with subsequent dilutions" So while conducting preclinical animal experiments or clinical trials to evaluate the effect of different dilutions of homeopathic preparations, one has to consider homeopathic indications.

Limitations: - 1. We had not procured Morphine as test drug as it is reserved drug instead of that we used clinically used conventional morphine derivative Pentazocine. 2. Succesed alcohol with different potencies should be used instead of dispensing alcohol.

5. Conclusion

Pharmacological actions of Opium seen in modern medicine were not seen with different dilutions of Opium, in homeopathic potencies. 30c and 200c dilutions are having secondary curative action as per the homeopathic indications.

Acknowledgments

We would like to thank Dr. V.A. Pandit, Prof. and Head of Department of Pharmacology and Principal, Dr. Arun B. Jadhav MD (Hom) Ph.D., for their support and guidance and providing study material.

References

[1] Samuel Hahnemann. Organon of Medicine. 6th Ed. Aphorism, 26.

[2] Sahani M.K., 2007: Potentisation. In: Principles and Practice of Hom Pharmacy. 1st Ed. Narayana Publisher, New Delhi, 109.

[3] Maddox J., et al. *"High-dilution" Experiments a Delusion*. Nature. 1988. 334; 287–290.

[4] Schepper Luc De, 2005-06: *Hahnemannian Laws and Principles*. In: Textbook of Classical Homeopathy for the Professional. Reprint Ed. B. Jain Publishers, New Delhi, 27-39

[5] Linde K., et al. *Are the Clinical Effects of Homeopathy Placebo Effects? A Meta-Analysis of Placebo-Controlled Trials*. Lancet. 1997. 350 (9081) 834–43.

[6] Shang A., et al. *Are the Clinical Effects of Homoeopathy Placebo Effects? Comparative Study of Placebo-Controlled Trials of Homoeopathy and Allopathy*. Lancet .2005. 366 (9487) 726–732.

[7] Bulduk Ibrahim et al. *Isolation and Characterization of Antitumor Alkaloid from Poppy Capsules (Papaver somniferum).* Journal of Chemistry. 2013. 4.

[8] Sahani M.K., 2007: *Physiological Action of Some Drugs. In: Principles and Practice of Hom Pharmacy*. 1st Ed. Narayana Publisher, New Delhi, 171.

[9] Hans Gerhard Vogel. *Psychotropic and Neurotropic Activity. In:* Drug Discovery and Evaluation Pharmacological assay. 2nd Ed. Springer Publisher, Germany, 388.

[10] Ghosh M.N. *Some Common Evaluation Techniques.* In: Fundamentals of Experimental Pharmacology. 4th Ed. Hilton and Company, Kolkata, 162.

[11] Bilbey D.L.J., et al. *The Anatomical Basis of the Straub Phenomenon*. Brit. J. Pharmacol. 1960. 15; 540.

[12] Tony L., et al., 2011: *Opioids, Analgesia, and Pain Management*. In: Goodman & Gilman's Pharmacologic Basis of Therapeutics, 12 Ed. Mc Graw Hill Publishers, New York, 481.

[13] Tony L., et al., 2011: *Opioids, Analgesia, and Pain Management*. In: Goodman & Gilman's Pharmacologic Basis of Therapeutics. 12 Ed. Mc Graw Hill Publisher, New York, 515-516.

[14] Sahani M.K., 2007: *Methods of Preparation of Homeopathic Drugs.* In: Principles and Practice of Hom Pharmacy, 1st Ed. Narayana Publisher, New Delhi, 123-127.

[15] Tripathi K.D., 2008: *Ethyl and Methyl Alcohol.* In: Essential of Medical Pharmacology. 6th Ed. Jaypee, New Delhi, 381.

[16] Sumeit Goel, 2002: *Physics of Potentization.* In*:* Art and Science of Hom Pharmacy. 1st Ed. Leo Enterprises, Ahmedabad, 253.

[17] Luc De Schepper, 2005-06: Hahnemannian Textbook of Classical Homeopathy for the Professional. Reprint Ed. B. Jain Publishers, New Delhi, 92-94.

[18] Hahnemann S., 1921: The Organon of the Healing Art. 6th Ed. Aphorism, 63-64.

[19] Schepper Luc De, 2005-06: *Prim and Sec Action.* In: Achieving and Maintaining the Simillium. Reprint Ed. B. Jain Publishers, New Delhi, 13-19.

[20] Hahnemann S., 1921: The Organon of the Healing Art. 6th Ed., Aphorism, 128.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 119-124, Article ID Med-98
ISSN: 2320 – 0251

Research Article | Open Access

Management of 'Mukhapaka' by 'Haridradi Tail' w.s.r. to Recurrent Aphthous Ulcer

M.A. Lahankar[1], Sunita V. Magar[2], and Amar P. Dwivedi[3]

[1]Department of Shalakya, M.A. Podar Govt. (Ayu) Hospital, Mumbai, Maharashtra, India
[2]Department of Shalakya, M.G. Ayurved College, Salod, Wardha, Maharashtra, India
[3]Department of Shalya Tantra, Dr. D.Y. Patil College of Ayurveda & Hospital, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Amar P. Dwivedi, dramar_d@yahoo.co.in

Publication Date: 15 October 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-98

Abstract 'Mukhpak' or 'Sarvasar Rog' is nothing but a recurrent mouth ulcer or Stomatitis and is also termed as Aphthous ulcer. Over consumption of extremely pungent and spicy food, consuming and chewing of chemical agents like Tobacco-Gutakha, Insomnia, Vitamin deficiency, many life threatening disease like Malignancy, Submucosal fibrosis, Skin disease and disturbances in G.I. tract like Constipation, Dysentery are the main causative factors responsible for this most common ENT ailment. In modern medicine, several mouth paints and mouth gargles are used for the treatment for Aphthous ulcer adjuvant to steroids, B'Complex group of drugs, injection placentrex (sub mucosal) which have their own limitations and there is no successful, satisfactory and cost effective treatment available. The trial preparation 'Haridradi Tail' i.e. medicated oil consisted of Haridra (Curcuma longa), Nimba patra (Azadirachta indica), Yastimadhu (Glycyrrhiza glabra), Neelkamal (Nelumbo nucifera) & Sesame oil (Sesamum indicum). This was clinically tried on 30 cases of mild to severe types of 'Mukhapaka' in the form of 'Gandoosh', after every 4 hourly and also for oral administration, 10ml twice a day, for 10 days. It was observed that the trial preparation produces highly significant ($p<0.05$) symptomatic relief and causes marked improvement ulceration, present in buccal mucosal layer, burning sensation of palate, redness and erosion of oral cavity, difficulty in swallowing & chewing pungent things, enlargement of lymph nodes etc.
Keywords *Sarvasar Rog; Sushrut Samhita; Haridradi Tail; Aphthous Ulcer*

1. Introduction

Aphthous ulcer is also termed as mouth ulcer (Stomatitis). It can occur anywhere in the mouth, including the inside of the cheeks, gums, tongue, lips and palate and is thought to affect about 20% of the general population to some degree. The symptoms range from presence of Mouth Ulcers, Redness and Erosion of Buccal Mucosa, Burning Sensation of Oral Mucosa, Difficulty in Chewing Pungent & Hot Things and or Enlargement of Sublingual & Submandibular Lymphnodes.

The causative factors are poor oral hygiene, dietary protein deficiency, poorly fitted dentures, or from mouth burns and scars from food or drinks, toxic plants, or by conditions that affect the entire body, such as medications, allergic reactions, radiation therapy, or infections. Furthermore, in India, a habit of consumption of extremely pungent and spicy food poses a potential hazard to the oral mucosa [1].

In modern medicine, therapies are aimed at alleviating the pain, reducing the inflammation and promoting healing of the ulcers, but there is little evidence of efficacy for any treatment that has been used.

In Ayurvedic text, Aphthous ulcer is denoted as ‘Sarvasar rog’ or ‘Mukhapaka’ due to its spread in the complete oral cavity (mukha) [2, 3, 4].

The trial preparation ‘Haridradi Tail’ was given in patients having mild to severe types of 'Mukhapaka' in the form of 'Gandoosh', after every 4 hourly and also for oral administration, 10ml twice a day, for 10 days.

It was observed that ‘Haridradi Tail’ revealed highly significant in relieving symptoms like ulceration present in buccal mucosal layer, burning sensation of palate, redness and erosion of oral cavity, difficulty in swallowing & chewing pungent things, enlargement of lymph nodes etc. Thus, the trial drug proved effective, potent, easily available in all seasons, easy to prepare & use, acceptable by any group, which has minimal unwanted action.

2. Aim and Objectives of Study

i. To evaluate the therapeutic efficacy of 'Haridradi Tail' in ‘Mukhapaka’ (Recurrent Aphthous Ulcer) as an alternative form of treatment.
ii. To rationalize the treatment of ‘Mukhapaka’ by launching a drug or formulation, which is most effective and potent, easily available in all seasons, easy to prepare & use, acceptable by any group, which has minimal unwanted action.

3. Material and Methods

Title of Study

To evaluate the therapeutic efficacy of 'Haridradi Tail' in ‘Mukhapaka’ (Recurrent Aphthous Ulcer).

Place of Study

M.A. Podar (Govt.) Hospital, Worli, Mumbai-400018, Maharashtra, India.

Sample Size

30

Drug & Duration of Therapy

Haridradi Tail 'Gandoosh', every 4 hourly and also for oral administration, 10ml twice a day, for 10 days.

Drug Ingredients

Haridra (Curcuma longa), Nimba patra (Azadirachta indica), Yastimadhu (Glycyrrhiza glabra), Neelkamal (Nelumbo nucifera) in equal quantity & Sesame oil (Sesamum indicum) [5].

Typical method of 'Siddha oil' preparation (1:4:16) is followed as per 'Sneh kalpana' described in Sushrut Samhita.

Inclusive Criteria

Patients presenting with following symptoms were considered for the clinical trial.

a) Male and female patients of age group of 13 years and above.
b) Ulceration occurred anywhere in buccal cavity for e.g. tongue, lips, cheek, hard palate, pharyngeal wall etc.
c) Burning sensation of oral mucosa while taking food.
d) Redness and inflammation of the tongue.
e) Difficulty in swallowing chewing pungent and spicy food and hot drinks.
f) Patients having Mukhapaka/ ulceration due to stress, wrong dietary habits, deficiency of vitamins, drug induced due to anemia &constipation.

Exclusive Criteria

Patients with Diabetes, Tuberculosis, HIV, Herpes, Malignancy, Chrone's disease, Ulcerative colitis, lichen planus etc.

Pathological Investigations

Complete Blood Count, E.S.R, V.D.R.L, Blood sugar and Urine routine.

4. Assessment

The diagnosis of 'Mukhapaka' was confirmed on presence of mouth ulcer & difficulty in chewing pungent and hot things; due to erosion buccal mucosa each and every patient had these symptoms. The clinical feature of 'Mukhapak' was graded in four points 0-3 scale. The effect of the treatment was assessed after every two days basis, in terms of subjective improvement by way of determining the rate of favorable shift of grades on a four (0 to 3) grade symptoms rating scale developed for this purpose.

(A) **Subjective Assessment**

In these study group, age of patient where ranging from 30-82 yrs with average age 35.21 yrs 53.3% of total cases were male 76.6% of total cases were married and 70.0% of cases were educated.

Table 1: *Demography of Patients*

Parameters	Total No. of Cases: 30	
Age	Mean± SD	Range
	35.21±14.97	13-82 Yrs
Sex %	Male	Female
	16 (53.3)	14 (46.6)
Diet %	Veg.	Mixed

	15 (50.0)	15 (50.0)
Educational Status %	Educated	Illiterate
	21 (70)	9 (30)
Marital Status %	Married	Single
	23 (76.7)	07 (23.3)

(B) **Statistical Observations**

i. **Presence of Mouth Ulcers (Numbers of Ulcers, Size of Ulcers, Site of Ulcers)**

The initial mean grade of mouth ulcers along with number of ulcers present in trial group of patient (2.29 ± 0.66) on the 2nd day of follow up, it came down to (2.11 ± 0.69), if further came down successively on the 4th day to (1.32 ± 0.61), 6th day (0.48 ± 0.57), on 8th day (0.07 ± 0.26), 10th day (0).

The improvement statically noted on the 4th, 6th, 8th & 10lh day of follow up was highly significant (p<0.05) significant.

ii. **Redness and Erosion of Buccal Mucosa**

Initial mean grade score for the symptom 'redness and erosion of buccal mucosa was (2.04 ± 0.74) after 2nd day it came down to (1.61 ± 0.63), on day 4th (0.71 ± 0.60). It came down to (0.24 ± 0.51) on 6th day of treatment. On 8th day (0.03 ±0.19) and on 10th day (0).

The result still being highly significant (P<0.05 significant) in each follow up from 2nd day.

iii. **Burning Sensation of Oral Mucosa**

From the very 2nd day of follow up this symptoms started reducing i.e. (mean grade score for this symptoms was (1.93 ± 0.77) & on 2nd day (1.46 ± 0.64). On day 4th mean grade was (0.57 ± 0.63) & on 6th day the mean grade was (0.24 ± 0.51). On 8th day (0.03 ±0.19) & on 10th day it came to (0); (p <0. 050), statistically results highly significant.

iv. **Difficulty in Chewing Pungent & Hot Things**

Initially means score was (1.89 ± 0.79) on 2nd day it comes down to (1.3 1 ± 0.68) on 4th day it was (0.54 ± 0.64). On 6th day the score was (0.21 ± 0.49). On 8th day (0.03 ± 0.190) and on 10th day it disappeared completely (p<0.05 significant).

(C) **Enlargement of Sublingual & Submandibular Lymphnodes**

The initial means grade score of enlargement & tenderness of lymphnodes was (1.18 ± 1.09) & it remains constant on day 2. It reduced to (0.86 ± 0.85) on day 4th (0.32 ± 0.55) & to (0.14 ± 0.44) on day 6th. On 8th day (0.03 ± 0.19) the result being statistically highly significant (p<0.05) the symptoms were absent in all cases on tenth day of follow up.

Table 2: *Statistical Analysis of Objective Para Meters*

S. No.	Symptoms	Initial Mean±SD	After 2 days	After 4 days	After 6 days	After 8 days	After 10 days
1	Number of mouth ulcers & size of mouth ulcers	2.29 ±0.66	2.11 ±0.69	1.32 ±0.61	0.48 ±0.57	0.07 ±2.26	0
2	Redness and erosion of buccal mucosa	2.04 ±0.74	1.61 ±0.63	0.71 ±0.60	0.24 ±0.51	0.03 ±0.19	0
3	Burning sensation of oral mucosa	1.93 ±0.77	1.46 ±0.64	0.57 ±0.63	0.24 ±0.51	0.03 ±0.19	0
4	Difficulty in swallowing pungent and hot things	1.89 ±0.79	1.36 ±0.68	0.54 ±0.64	0.21 ±0.49	0.03 ±0.19	0
5	Enlargement of lymphnodes and tenderness	1.18 ±1.09	0.86 ±0.85	0.32 ±0.55	0.14 ±0.44	0.03 ±0.19	0

By wilcoxon sign rank test $p<0.05$ significant

Above table shows that mean score of ulceration were 2.29 at basal.

After treatment at the end of 4 days means score had a significant reduction 42.4% and at end of 6th day reductions were 79.1%, at end of 8 day not a single patient had ulceration.

5. Results, Discussion and Conclusion

Table 3: *Clinical Profile of the 30 Patients*

S. No.	Clinical Features	No. of Cases	Percentage
1	Mouth ulcers present	30	100%
2	Burning sensation of mucosa	30	100%
3	Redness of oral mucosa erosion	30	100%
4	Difficulting chewing pungent things	27	90%
5	Enlargement of lymphnodes	19	60.3%
6	Recurrence of mouth ulcers	21	70%

The object of the present research was to undertake a critical study on the concepts of clinical aetiopathology of 'Mukhapaka' and to evaluate the efficacy of 'Haridradi Taila' to treat the mouth ulcers, one of the commonest occurring diseases of oral cavity.

The ancient Ayurvedic physicians were aware of the ‘Apathyakara Ahara and Vihara' (unsalutary life style and food habits) as the most important causative agent [6, 7, 8].

Total 30 cases of ‘Mukhapaka’ were registered for clinical study. Maximum number of patients were in the 2nd and 3rd decades of life; residing in urban area and of lower and middle socio-economic status.

The trial preparation ‘Haridradi Taila’ was clinically tried on 30 cases of mild to severe types of 'Mukhapaka' in the form of 'Gandoosh', after every 4 hourly and also for oral administration; 10ml twice a day; for 10 days.

The effect of the treatment was assessed after every two days basis in terms of subjective improvement by way of determining the rate of favorable shift of grades on a four (0 to 3) grade symptoms rating scale developed for this purpose.

It was observed that the trial preparation produces highly significant ($p<0.05$) symptomatic relief and causes marked improvement ulceration, present in buccal mucosal layer, burning sensation of palate. Redness and erosin of oral cavity, difficulty in swallowing & chewing pungent things, enlargement of lymph nodes etc.

On the basis of case study we can say that management of 'Mukhapaka' by 'Haridradi Taila' has been proved as cost effective, potent, easily available in all seasons, easy to prepare & use, acceptable treatment by any group, with minimal unwanted action.

References

[1] A Short Textbook of ENT- edited by K.B. Bhargava, S.K. Bhargava & T.M. Shah, 7th Edition-2005, Usha Publication, Mumbai, India, 228-229.

[2] Vagbhatta's Ashtanga Hridayam, Vol. 3 (Uttar sthan), translated by Prof. K.R. Srikanth Murthy, Edition Reprint-2006, and published by Chaukhamba Krishnadas Academy, Varanasi, U.P. India, Chapter 22, 184-197.

[3] Illustrated Susruta Samhita of Sushruta, Vol. 1 & 2, translated by Prof. K.R. Srikanth Murthy, Edition Second-2004, published by Chaukhamba Orientalia Publication, Varanasi, U.P. India, Nidansthan Chapter 16-Page no. 563 & Chikitsasthan Chapter 22- Page no. 204-215.

[4] Agnivesh's Charak Samhita (Based on Chakrapani Datta's Ayurved Dipika), Vol. 4, translated by Dr. Ram Karan Sharma & Vaidya Bhagwan Dash, Edition Reprint-2007, published by Chaukhamba Sanskrit series office, Varanasi, U.P. India, Chikista Sthan- Chapter 26-Page no. 505.

[5] Dravyaguna Vigyan, Vol. 2, by Prof. P.V. Sharma, Edition Reprint-2006, published by Chaukambha Bharati Academy, Varanasi, U.P., India, Page no. 120, 149, 162, 253 & 585.

[6] Bhavprakash of Bhavamisra (Uttarardha Madhyamkhanda), Part 2, 8th Edition-2003, edited with the Vidyotini Hindi Commentary by Pandiat Sri Brahmashankara Mishra published by Chaukhamba Sanskrit Sansthan, Varanasi, U.P., India, Chikistadhikar; Mukharogadhikar, Chapter 66-Page no. 720.

[7] Bhaisajya Ratnavali-Vidyotini Hindi Vyakhya Vimarsh Parisishta Samhita-commentary by Shri Ambika Datta Shastri, edited by Kaviraj Rajeshwardatta Shastri, 16th Edition-2002, published by Chaukamba Sanskrit Sanshtan Varanasi, U.P., India, Page no. 676-677.

[8] Yogaratnakar (Uttarardha), Vidyitini tika, by Vaidya Shri Lakshmipati Shastri, Edited by Bhishagratna Shri Brahmashankar Shastri, 7th Edition-2002, published by Chaukhamba Sanskrit Sansthan, Varanasi, U.P., India, Mukharoga Nidan/Chikitsa, Page no. 296-97.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 112-118, Article ID Med-102
ISSN: 2320 – 0251

Case Study | Open Access

A Case Study of Manjistadi Taila with Kadalipatra and Bactigauze for Local Application in the Management of Burn

Anantkumar V. Shekokar, Kanchan M. Borkar, Pradeep O. Pandao and Swapneel S. Londe

Department of Shalya Tantra, Maharashtra University of Health Sciences, Nashik, Maharashtra, India

Correspondence should be addressed to Anantkumar V. Shekokar, dranantkumarshekokar@gmail.com

Publication Date: 19 September 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-102

Abstract Traditional medicines have been used for many countries around the world including South East Asian countries for health care by the people in recent years, there has been a significant global upsurge in the use of traditional medicine because of various reasons including the fact that in spite of advance made in the health sector equitable care coverage availability, accessibility & affordability to conventional health care & services are quiet often beyond the reach of large section of people. Ayurvedic medicines got much desired boost for current & emerging challenges, it is crucial that Ayurvedic medicines are beneficial, must play their respective roles in promoting health & preventing or treating diseases. A Burn is an accidental as well as suicidal injury encountered by surgeon in day to day practice. Sushruta is pioneer of Indian surgery. He explained Dagdha (burn) and its management in 12th Adhyaya of Sutrasthan. As the patient of Dagdha (Burn) are increasing in the society due to today's stressful & busy life style. The present study entitled "A Case Study of Manjistadi Taila with Kadalipatra and Bactigauze for Local Application in the Management of Burn". Treatments prescribed in modern medicine like chlorhexidine acetate as bactigauze had proved their definite efficacy in the Burn management but they have some limitations like it can't avoid eschar, hypertrophic scar, post burn contracture which harms as a cosmetically. So to overcome these deficiencies we can apply Manjisthadi Taila with Kadalipatra as local application in the 1st & 2nd degree burn. The present case study was conducted on 2 patients as far considered one is control group and other is experimental group. The clinical assessment was done on the basis of grading criteria with specific symptomology of Burn like Vedana (pain), Strava (secretion), Vranavarna (colour), Gandha (smell), eschar, discoloration, hypertrophic scar, and contracture. According to observations and results conclusion has been done.

Keywords *Burn, Manjishta, Kadalipatra, Bactigauze, Dagdha, Taila*

1. Introduction

Ayurveda is an ancient science from Vaidic Kala as per Sushruta's Ayurveda Prayojan [1]. Sushruta mentioned that during the treatment of disease or after treating the disease the selected health will be preserved that means prevention of complication as well as recurrence of that disease.

Traditional medicines have been used for many countries around the world including south east Asian countries for health care by the people in recent years, there has been a significant global upsurge in the use of traditional medicine because of various reasons including the fact that inspite of advance made in the health sector equitable care coverage availability, accessibility & affordability to conventional health care & services are quiet often beyond the reach of large section of people. Ayurvedic medicines got much desired boost for current & emerging challenges, it is crucial that Ayurvedic medicines are beneficial, must play their respective roles in promoting health & preventing or treating diseases.

Ayurveda is Upang of Atharvaveda; this Ayurveda consists of eight branches in which Shalya Tantra is Aadya & Pradhan branch which offers quick & swifter solution for the disease [2]. Acharya Sushruta is a pioneer of surgery & Ayurvedic Shalya Tantra and had explained main importance i.e. Pradhanta *of* Shalya Tantra [3]. In this way, Acharya Sushruta had explained various important topics long years ago which are explained & developed by modern science nowadays, such as Karna Nasa Oshta Sandhan, Asthavidh Shashra Karma, Asthi Bhagna, Kshar Chikitsa, Agni Dagdha.

Susharutacharya has been mentioned Agni Dagdha as Pramad Dagdha or Etaratha Dagdha.

This Pramad Dagdha [4] has four types.

i. Plushtadagdha
ii. Durdagdha
iii. Samyakdagdha
iv. Atidagdha

i. **Plushtadagdha**

Plushta is that Dagdha which has a pigmented area on skin associated with severe burning sensation.

ii. **Durdagdha**

Dur Dagdha is that Dagdha in which Sphota appears accompanied with severe pain such as sucking, burning with redness and infection. These symptoms subside after a long time.

iii. **Samyakdagdha**

Anawagad means wound which are not deep. Talphala Varna means like blue and black in colour, Susamsthit means without elevation or depression.

iv. **Atidagdha**

In Atidagdha there are hanging of burnt tissue, parts becomes loose & useless etc.

Sushruta had explained Dagdha Chikista [5] in Sushruta Samhita in Sutrasthan Adhyay 12th in which Cold therapy is given by the surgeon in 1st & 2nd degree burn. Treatment prescribed in modern medicine have some limitations like it can't prevent eschar, hypertrophic scar, post burn contracture which harms as a cosmetically. So to overcome these deficiencies we can apply Manjistadi Taila with Kadalipatra as local application in the 1st & 2nd degree burn. As Manjistadi Tail is good for Vranaropan *&* Kadalipatra is good for Shulshaman and retained moisture which promoted faster wound healing as well as prevent eschar formation, so keeping above points in mind decided to work on this topic.

2. Aims and Objective

1. To study the effect of Manjistadi Tail *&* Kadali patra of burn (1st & 2nd degree).
2. To study the effect of bactigauze in the management of burn.
3. To study the effect of Manjistadi Tail on eschar hypertrophic scar and contracture.

3. Materials and Methods

3.1. Manjistadi Tail [6]

3.1.1. Manjista

Ayurvedic Aspect [7]
Name- Manjista
Rasa- Madhur, Tikta
Virya- Ushna
Vipak- Madhur
Gun- Guru
Doshaghnata- Tridosha shaman-Inflammatory and Shodhan

Modern Aspect [8]
English Name- Indian madder
Latin name-Rubia cordifolia Kashaya
Family- Rubiaceae
Plant- Lata
Systemic Property-Anti

3.1.2. Taila (TILA)

Ayurvedic Aspect [9]
Name- Tila Taila
Rasa- Madhur, Kashaya
Virya- Ushna
Vipak- Madhur
Gun- Sheet, Vyavayi

4. Drug Study

4.1. Preparation of Drug

A. ***Manjistadi Taila*** [10] Manjistadi Taila will be prepared in the pharmacy of S.V.N.H.T's Ayurved College, Rahuri Factory as per the common method of Taila preparation mentioned in Sharangdhar Samhita.

B. ***Kadali Patra*** [11] It will be collected form herbal garden of respective college.

C. ***Bactigauze*** Adheshwar Meditex Pvt. Ltd. Pharma

5. Methods

A. ***Consent*** An inform written consent will be obtained from every patient before including in the study.

B. ***Research Proforma*** After registration of the patient for research study specially prepared research proforma will be filling up with respect to history, physical and clinical examination and investigations.

C. ***No. of Patients*** Total 02 patients will be selected & divided into two groups.

Group A Experimental Group
01 patient will be treated with irrigation of normal saline followed by local application of Manjistadi Taila with Kadali Patra.

Group B Control Group
01 patient will be treated with irrigation of normal saline followed by local application of chlorhexidine as Bactigauze
Trade Name Bactigauze
Adeshwar Meditex PVT. LTD. Pharma
All patients will be subjected to routine investigations and treatments.

1} **Investigations**
CBC, BSL random, BT CT, Urine Routine, HIV

2} **Treatments**
Antibiotic- tab. Moxikind CV 625{Amoxycillin trihydrate 500mg+ potassium clavulanate 125mg} {Mankind pharmacy} 1BD for 5 days
Anti-inflammatory- tab. Flozen AA {aceclofenac 100mg paracetamol 325mg serratiopeptidase 15mg} {Discovery division of mankind pharma} 1BD for 5 days.
Antacid- cap. Oscar 20 {omeprazole 20mg} {Lifestar pharma} 1BD for 5 days.

A. **Place of Work**

Shalya Tantra Department and IPD/OPD of SVNHT's Ayurved Mahavidhyalaya, Shri Shivaji Nagar, Rahuri, Dist- Ahmednagar.

B. **Mode of Administration**

Time-Once a day regular
Duration-Up to epithelization
Diet-High protein diet specially mentioned in Shashti Upakrama as like pulses, groundnut, cashew Nut, almonds and palm dates.
Follow Up-0 day, 3rd day, 5th day, 7th day, 10th day, 15th day, 21st day, 30th Days, 37th Days, 45th Days.

C. **Selection Criteria**

Inclusive
Patient having up to 15% burn,
1st & 2nd degree burn,
Age group- 18-60 yrs.
Irrespective of sex & occupation,
Burn due to heat including dry & moist,
Within 48 hr. burn,
Upper & lower extremities.

Exclusive
Patient having more than 15% burn,
3rd degree burn. *(Sira, Snayu, Asthi, Sandhi, Dagdha)*
Diabetes,
HIV,
Hepatitis B,
Age group Less than 18 years & more than 60 years,
Hb% below 8 gm/dl,
Electrical, chemical, frost and radiation burn,
Toxemia,
Septicemia,
Burn after 48 hrs.
Head, neck, thorax, abdomen, genital organ.

D. **Observations**

1. Vedana (Pain)
O No pain
I Pain on exaggeration
II Pain on slight movement
III Continues pain
2. **Vranavarna (Colour)**
O Pinkish red
I Normal reddish colour
II Whitish yellow colour
III Yellow slough formation
3. Strava (Secretion)
O 1-2 pad
I 3-5 pad
II 6-8 pad
III 9-11pad
4. Gandha (Smell)
O Absent
I Present
5. Eschar
O Absent
I Present
6. Hypertrophic Scar
O Absent

I Present

7. Contracture

O Absent

I Present

6. Results

Effect on Varna- Manjistadi Tail and Kadalipatra provides normal colour to the burn wound in 30 days; while bactigauze provide mild colour to the wound in 45 days.

Effect on Gandha- Manjistadi Tail and Kadalipatra, gives normal smell of burn wound in 12 days while bactigauze gives normal smell to the wound in 19 days.

Effect on Strava- Manjistadi Tail and Kadalipatra gives complete relieve the strava from 14 days while bactigauze gives relief from strava in 21 days.

Effect on Vedana- Symptoms of Vedana is completely relieved by Manjistadi Tail and Kadalipatra in 17 days while in bactigauze group, complete relief from Vedana not noticed even at the end of 26 days.

Effect on Granulation- Granulation occurred on 27^{th} day in experimental group, while in control group it occurs on 35^{th} day.

Post Healed Wound Progress

Discoloration, contracture and keloid absolutely not observed in Manjistadi Tail and Kadalipatra while in bactigauze hyperdiscolouration and contracture is observed but keloid is not seen.

7. Mode of Action & Discussion

Due to Snigdha property of Taila prevents dryness of burn wound. It prevents the loss of water from the exposed tissue and prevents infection.

Manjistadi Tail has Ropana property by producing optimal quality of granulation tissue. Kadalipatra has shool shaman property and provides moisture to the burn wound and hence prevents eschar and reduces the pain of burn patient.

By using Manjistadi Tail and Kadalipatra prevents formation of discoloration, eschar, contracture which gives better cosmetic relief to the patient of burn in comparison of bactigauze and hence today's modern era Manjistadi Taila and Kadalipatra may become a choice for the management of burn for early healing property, prevent the infection and cosmetic purpose.

8. Conclusion

a. Manjistadi Tail and Kadali patra has a good effect than bactigauze on burn.
b. Manjistadi Tail and Kadali patra has better wound healing as compare to Bactigauze.
c. Manjistadi Tail and Kadali patra minimizes pain.
d. Manjistadi Tail and Kadali patra prevents eschar formation.
e. No hypertrophic scar formation observed.
f. Manjistadi Tail and Kadali patra prevents contracture.

g. Manjistadi Tail and Kadali patra can be used for better management of burn.
h. Present case study will be opens the new research path in modern surgical practices.

References

[1] Sushrut Samhita, Anantram Sharma, Sushrutvimarshini Hindi Commentary, Vol. I, 1st Ed., Vedotpattiadhyaya, Sutrasthan Aadhyaya No. 1, Sutra No. 13; Page No. 8, Chaukhamba Surbharati Prakashan, Varanasi, 2001.

[2] Sushrut Samhita, Anantram Sharma, Sushrutvimarshini Hindi Commentary, Vol. I, 1st Ed., Vedotpattiadhyaya, Sutrasthan Aadhyaya No. 1, Sutra No. 16; Page No. 9, Chaukhamba Surbharati Prakashan, Varanasi, 2001.

[3] Sushrut Samhita, Anantram Sharma, Sushrutvimarshini Hindi Commentary, Vol. I, 1st Ed., Vedotpattiadhyaya, Sutrasthan Aadhyaya No. 1, Sutra No. 17; Page No. 10, Chaukhamba Surbharati Prakashan, Varanasi, 2001.

[4] Anantkumar Shekokar & Kanchan Shekokar, Principles & Practices of Agnikarma, Vol. 1, 2nd Ed., Page No. 23. Shantanu Publication, Pune, 2007.

[5] Sushrut Samhita, Anantram Sharma, Sushrutvimarshini Hindi Commentary, Vol. I, 1st Ed., Agnikarmavidhiraadhyaya, Sutrasthan Aadhyaya No. 12, Sutra No. 19-21; Page No. 89, Chaukhamba Surbharati Prakashan, Varanasi, 2001.

[6] Bhaishjyaratnavali, Kaviraj Shri Ambikadatta Shastri, Vidyotini Hindi Vyakhya, 2nd Ed., Sadyovranachikitsaprakaranam, Adhya No. 48, Sutra No. 20, Page No. 601 Chaukhamba Sanskrit Sansthan, Varanasi, 2002.

[7] Bhavprakash Nighantu, Shri Bhramhashankar Shastri, Vidyotini Hindi Vyakhya, Poorvardha, Haritakyadivarga, 1st Ed., Sutra No. 191, Page No. 110, Chaukhamba Sanskrit Sansthan, Varanasi, 1984.

[8] Bhavprakash Nighantu, Shri Bhramhashankar Shastri, Vidyotini Hindi Vyakhya, Poorvardha, Haritakyadivarga, 1st Ed., Sutra No. 191, Page No. 110, Chaukhamba Sanskrit Sansthan, Varanasi, 1984.

[9] Bhavprakash Nighantu, Shri Bhramhashankar Shastri and Rupalalji Vaisya, Vidyotini Hindi Vyakhya, Poorvardha, Tailvarga, 1st Ed., Sutra No. 2-7, Page No. 779, Chaukhamba Sanskrit Sansthan, Varanasi, 1984.

[10] Sharangadhara Samhita Dr. Brahmanand Tripathi, Dipika Hindi Commentary, Navamodhyaya, 2nd Ed., Sutra No. 1, Page No. 218, Chaukhamba Surbharti Prakashan Varanasi, 1990.

[11] Yogratnakar, Shri. Bramhashankar Shastri, Vidyotini Hindi Tika Sahit, Vd. Shri. Lakshmipati Shastri, Dhanyadiphalakandashakguna, 2nd Ed., Sutra No. 57, Page No. 30, Chaukhamba Sanskrit Samsthan, Varanasi, 1999.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 125-131, Article ID Med-107
ISSN: 2320 – 0251

Review Article | Open Access

An Overview of *Waja uz Zahr* (Low Back Pain) and its Management in Unani System of Medicine

Arshid I.Q., M.A. Siddiqui, M.D. Sarfaraz, and Nasimul H.

Department of Moalajat, National Institute of Unani Medicine (NIUM), Bangalore, Karnataka, India

Correspondence should be addressed to Arshid I.Q., arshidwani456@gmail.com

Publication Date: 16 October 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-107

Abstract There is a comprehensive description of *waja* ul *mafasil* (bone and joint diseases) in classical Unani literature. Almost all ancient Unani Scholars have described *waja uz zahr* under the broad heading of *waja* ul *mafasil* in detail along with its clinical features, etiopathogenesis, complications and management in their treatises. In Unani system of medicine, low back pain (*Waja uz Zahr)* is described as a disease in which pain arises from internal and external muscles, ligaments surrounding the lumbar and lumbosacral region. According to the Ibne Sina and Zakaria Razi the most common causative matter of *waja uz zahr* is *kham balgham* (*ghair tabyee balgham*), which is formed due to defective metabolism of second and third stages of digestion, i.e. *hazme kabidi* and *hazme urooqi*. LBP (low back pain) is the most prevalent musculoskeletal condition and the most common cause of disability in developed nations. Almost everyone has at least one episode of low back pain during their lives. *Waja* (pain) can be alleviated by removing its cause or can be relieved by substances producing cold and analgesia, but the first is the real alleviating factor. Unani system offers a very effective treatment for this disease.
Keywords *Low Back Pain; Waja uz Zahr; Pain; Unani Medicine*

1. Introduction

Pain (*waja*) is a sudden perception of any contrary agent, which is one of the unnatural states of a living body [1]. Pain is a biopsychosocial experience, which is associated with widespread impairment in multiple domains of functioning, ranging from disruption in basic activities of daily living to disruption in psychosocial function and work related activities. Pain is the dominant symptom of rheumatic diseases. It is not only the main cause of suffering; but also the main key to diagnosis [2].

In Unani system of medicine, low back pain (*Waja uz Zahr)* is described as a disease in which pain remains stationary in the lumbar and lumbosacral region and does not radiate downwards. The pain arises from internal and external muscles; ligaments surrounding the lumbar and lumbosacral region due to *fasaad* in *mizaj (sue mizaj*). This *fasaad* in *mizaj* is due to surplus *buroodat* and accumulation

of raw *phlegm* (*kham balgham*), and may also arise due to accumulation of *ghaleez riyah* in the lumbar and lumbosacral region [3]. LBP (low back pain) is the most prevalent musculoskeletal condition and the most common cause of disability in developed nations. Almost everyone has at least one episode of low back pain during their lives [4]. It occurs in similar proportions in all cultures, interferes with quality of life and work performance, and is the most common reason for medical consultations. LBP incurs billions of dollars in medical expenditures each year, and this economic burden is of particular concern in poorer nations, where the already restricted health care funds are directed toward epidemics such as HIV and AIDS [5]. Despite the high frequency and enormous cost of low back pain, the medical model of "diagnose, treat, cure" does not easily fit in low back pain, because the nature of low back pain: it is a common, self-limiting disorder with a high rate of recurrence, and also in more than 90% of cases the exact anatomical source of LBP cannot be determined, and the preferred diagnostic label is 'non- specific LBP', thus the causes and effective therapeutic programs remain highly problematic [6]. In this technological era, medical science advanced a lot but still fails to explain the pathophysiology, effective treatment, prevention and rehabilitative measures for pain. Permanent elimination of pain has always been an impossible task. For these purposes, understanding the person and constellation within which the pain occurs is an important first step from which to derive others [7].

2. Etiology

Most of the renowned Unani physicians described the causes of *waja uz zahr* under the broad heading of *wajaul mafasil*. Zakaria Razi, an eminent Unani physician described the disease in the eleventh volume of his book Al-Hawi, though his description is not systematically arranged, but covers all possible causes related to disease. According to him, the first and foremost cause of *Wajaul mafasil* lies in the abnormal formation of chyme (*rutubat e mukhatia*) due to *naqs* (defect) in *hazm e kabidi and hazm e urooqi*, as a result the abnormal chyme produces abnormal humours, particularly abnormal phlegm (*ghair tabyee balgham*), which then gets accumulated in the joints of the body, thus causing swelling, tenderness and pain. Thus we can say that the root cause of *waja uz zahr* is the *naqs* in *hazm e kabidi* and *urooqi,* in which abnormal *balgham* gets accumulated in the joint structures of lumbosacral region. He says that sometimes weakness or extensiveness of joint structures either congenitally or due to some other disease, gives the seat to accumulate the abnormal humours in general, or vitiated phlegm in particular [8].

According to Ibne Sina, *Waja uz Zahr* arises from internal and external muscles, ligaments surrounding the lumbar and lumbosacral region due to *fasaad* in *mizaj* (*sue mizaj*). This *fasaad* in *mizaj* is due to surplus *buroodat* and accumulation of raw phlegm (*kham balgham*). He further stated that pain may also arise due to accumulation of *ghaleez riyah* in the lumbar and lumbosacral region [3].

In addition to the above mentioned causes, Jurjani in Zakheera Khawarzam Shahi and Akbar Arzani in Tibbe Akbar have described low back pain as *Darde pusht* with different causes as: (1) *Kasrate jima*. (2) *Mumtali rag*. (3) *Zoaf wa laghari gurda*. (4) *Musharikate reham*. (5) Excessive physical work [9, 10].

3. Pathogenesis

According to the Ibne Sina and Zakaria Razi the most common causative matter of *Waja uz zahr* is *kham balgham* (*ghair tabyee balgham*), which is formed due to defective metabolism of second and third stages of digestion, i.e. *hazme kabidi* and *hazme urooqi*. As the *mizaj* of *balgham* is *barid*, so when this abnormal *balgham* gets accumulated in the joint structures of lumbar region, it leads to *sue*

mizaj barid. The *mizaj* (temperament) of joint structure i.e., muscles, tendons, ligaments, bones and nerves is *barid* and *yabis*, so a little addition of *buroodat* can lead to deviation of temperament in these joint structures, which results in pain, as pain is caused due to sudden and irregular deviation of temperament. *Riyah*, the second most causative matter, causes pain only if there is loss of continuity in the sensitive organs by penetrating between muscle fibers and diffusing under the membranes such as periosteum. So we can say that the basic pathology of *waja uz zahr* lies in the *naqs hazam* particularly in *hazme kabidi and hazme urooqi* [3, 8]. The spine is unique in that it has multiple structures that are innervated by spine fibers, usually present within the spinal ligaments, in the apophyseal joint capsules, in the periosteum at the facial and tendon attachments and in the blood vessels; but only in the outer layers of the intervertebral discs. Thus low back pain can arise from:

- Anterior structures i.e. disc, vertebral bodies, ligaments, muscles;
- Posterior structures i.e. facets, ligaments, sacroiliac joints;
- Midline structures i.e. spinal cord, neural compress, muscles.

Pain is produced by pressure on these structures from disc protrusions, osteophytes or trauma [3, 10, 11, 12].

4. Epidemiology

LBP (low back pain) is the most prevalent musculoskeletal condition and the most common cause of disability in developed nations. Almost everyone has at least one episode of low back pain during their lives. It occurs in similar proportions in all cultures, interferes with quality of life and work performance, and is the most common reason for medical consultations. It has been reported that lifetime prevalence of LBP in developed countries is up to 85%, which makes this complaint second only to the common cold. It was studied that 37% of LBP was attributed to occupation, with two fold variation across regions; the attributed proportion was higher for men than women, because of higher participation in the labour force and in occupations with heavy lifting or whole body vibrations. The first episode of LBP is typically highest in the third decade of life and overall prevalence increase with age until the 60-65 year age group and then gradually declines [5, 4].

5. Clinical Presentation

Description of clinical features of *Waja uz Zahr* present in the classical text books of Unani medicine are based on causative factors as [9, 10, 13]:

In case of *sue mizaj barid sada*, the clinical features of *waja uz zahr* are:

- Feeling of coldness;
- Pain without heaviness;
- Pain relieved by temperamentally hot regimens.

In case of *kham madda* (*balgham kham*)

- Pain with heaviness; pain relieved by exercise and massage.

In case of *riyah*

- *Waja mumaddida* (pain with tension);
- Pain aggravates by taking those foods which produce flatulence.

In case of *azeem rag*

- *Waja zarbani* felt along the course of *rag* (vertically).

In case of *Zoafe gurda wa laghari*

- *Zoafe bah*;
- *Darde qutn*;
- Bladder symptoms.

6. Differential Diagnosis

6.1. Lumbosacral Strain

Lumbosacral strain is quiet common among the young adults due to faulty adoption of the back. The nature of pain is spasmodic which increases with activity, tenderness on palpation and limited range of motion [14].

6.2. Acute Disc Herniation or Disc Prolapsed

Disc prolapse occurs most commonly in middle age about 30-50 years; but can also occur in adolescence and elderly. It commonly lasts for 2-6 weeks but may continue for longer. It is often associated with neurological symptoms like altered sensation, weakness in the muscles, asymmetric reflexes. The quality of pain is sharp, shooting or burning pain, paraesthesia in leg, decreased with standing, increased with bending or sitting [14, 15].

6.3. Spinal Osteoarthritis

This is osteoarthritis of the joints in the spinal column, involving the intervertebral joints, the facet joints or both. It is one of the most common findings on plain spine radiographs of patients with (and without!!) low back pain and is almost universal after the age of 55–60, although to varying degrees [16].

6.4. Ankylosing Spondylitis

This is relatively uncommon but can present with painful stiffness of the spine. It is more common in males, age about 15-40 years. It is particularly felt in the early hours of the morning, waking the patient from the bed. Gradually the disease progresses upwards and involves different joints which are in order of frequency sacroiliac, spinal, hip, and shoulder joints [12, 14].

6.5. Spinal Stenosis

This may be caused by a combination of bony overgrowth (e.g. Osteophyte formation, Paget's disease), disc protrusion or herniation, or congenital anomalies, such as shortened vertebral pedicles. Neural impingement is worsened by activities such as walking, and claudication like symptoms usually require the patient to slow down or to stop and rest. Forward flexion of the spine may also relieve the pressure, and patients often acquire a forward flexed posture and learn to lean on objects (e.g. shopping carts) for symptom relief [16].

6.6. Infection

Infectious etiology of acute low back pain include osteomyelitis, septic discitis, and paraspinal or epidural abscess, whereas infectious etiologies of chronic low back pain include fungal or tuberculosis infections. Patients typically first report fever and sharp focal pain in the lumbar spine. Physical examination reveals tenderness to percussion [17].

7. Principles of Treatment (Usool Illaj)

The principle underlying the management is to remove the *maddi asbab* (causative matter) and correction of *sue mizaj* (ill temperament) which usually manifests in two ways; i.e. *sue mizaj maddi* and *sue mizaj sada* and restoration of these is called *tadeel* (normalization), which can be achieved by two main procedures *tanqiya mawad* and *tadeel mizaj* [10, 12].

Waja (pain) can be alleviated by removing its cause or can be relieved by substances producing cold and analgesia, as all the narcotics do; but the first is the real alleviating factor. As the root cause of *waja uz zahr* is *naqse hazam* (defective digestion) which leads to the production of *ghair tabyee balgham* (*kham balgham*) in the lumbosacral region; so the management should be with suitable modification (*tasaruf)* in the *asbab-e-sitte zarooriya* viz [18].

a. Atmospheric air
b. Food and drink
c. Rest and physical activity
d. Psychological activity
e. Sleep and wakefulness
f. Evacuation and retention

In case of *sue mizaj maddi*, the first line of treatment, to remove the morbid matter from the body is *nuzij wa istifraghe akhlat-e-ghair tabayiah* (concoction and expulsion of abnormal humor) especially *balgham (phlegm*) with [9, 16].

a. *Munzij*: This procedure matures the *kham balgham* from the structures of lumbar region; so that they can be easily expelled out.
b. *Mus'hil*: This expels the matured matter via intestines.
c. *Qai* (emesis)

In case of *sue mizaj sada* and after *istifragh,* in case of *sue mizaj maddi*, the line of treatment, to restore and normalize the deranged temperament (*mizaj*) - which is the main cause of pain, is achieved by the intervention of *tadabeer* (regiminal therapies) like [19, 3, 10].

- *Zimad* (liniment)
- *Natool* (irrigation)
- *Takmeed* (hot fomentation)
- *Fasd*: Usually done in case of *imtilai rag* on *rage Basleeq* or *Mabaz*.
- *Hammam*: Used in case of deep seated *madda* (morbid matter). It disperses the matter towards periphery and thus helps in relaxing the lumbosacral muscles.
- Riyazat (exerscise)
- *Dalk* (massage): Done with *har mizaji* (hot temperamental) medicinal oils like *raughan shibitt, raughan baboona* etc.

8. Treatment (Illaj)

According to Zakaria Razi, *waja uz zahr* is a type of *wajaul mafasil*; its treatment is same as that of *wajaul mafasil barid*. So the treatment of *waja uz zahr* should be done with *habbe munten, habbe sheetraj* as *mushil balgham*. *Raughan arandi*, as *muqi* (emetic), *raughan biskhapra* as massage, *musakhin zimad, itrifal kabeer* and *garm murabah*. He has mentioned in Al-Hawi that, two drugs namely *dafli* and *haliyoon* have a unique property to benefit in chronic *waja uz zahr* and in *waja uz zahr barid* respectively.

The ingredients of *habbe sheetraj*, which was composed by Yahya bin Masiwya, are:

suranjan, bozidan, mahi zahrah, turbud, iyaraj feeqra, shahm hanzal, kateera, harmal, zanjabeel, waj, satar, filfil safeed, tukhme karafs, nankhowa, anisoon, sikbeej and *muqil* [8, 19, 20].

Jurjani in Zakhira Khawarzam Shahi has recommended almost the same treatment as above with more emphasis on the use of *habbe sikbeej* and *tiryaq arbah* as *mushil*. *raughan firfiyoon*, *raughan qust*, *raughan sosan* and *raughan sudab* as massage. *Jograj gogul, ashq, jowsheer, sikbeej, jundbeedastar* and *farfiyoon* as *zimad* [20].

For *tanqiya badan*, the following drugs are best to use:

As *mushil balgham*: like *habbe munten, habbe sikhbeej, iyarij feeqra, tiryaq arbah.*

As *muqi* (emetic): *raughan arand* [10].

9. Conclusion

Thus, it can be concluded that *waja uz zahr* is a disease with multifactorial causes, main cause is the accumulation of abnormal *Balgham* in the joint structures of lumbosacral region, which leads to sue *mizaj* (ill temperament), thus giving rise to the pain and tenderness in these joints. Every prevailing pain relieving regimen that is adopted in present days is only short term and is exerting obvious and tremendous side effects. But the Unani way to handle the pain keeps the hope alive through holistic approach of *munzij wa mushil* therapy along with some specific *tadabeers* (regimens).

References

[1] Ibn Sina Abu Ali, 1983: *Al-Qanoon Fit-Tib (English Translation by Department of Islamic Studies Jamia Hamdard).* Book I. Hamdard University, New Delhi, 177-181.

[2] Da Silva JAP, 2010: *Rheumatology in Practice*. Springer-Verlag, London, 19-22.

[3] Ibn Sina Abu Ali. *Al Qanoon (Urdu Translation by Ghulam Hasnain Kantoori)*. Idara Kitabush Shifa, New Delhi, YNM: 165-206,373-375, 1117-1129.

[4] Hoy, D., Brooks, P., Blyth, F., and Buchbinder, R. *The Epidemiology of Low Back Pain.* Best Practice and Research Clinical Rheumatology. 2010. 24 (6) 769-781.

[5] Punnet, L., *Estimating the Global Burden of Low Back Pain Attributable to Combined Occupational Exposures*. American Journal of Industrial Medicine, 2005. 48 (6) 459-69.

[6] Warrell, D.A., 2010: *Oxford Textbook of Medicine.* 5th Ed. Oxford Press, London, 1009-1112.

[7] Kirkaldy-Willis. *Spinal Manipulation in the Treatment of Low Back Pain*. ACA Journal of Chiropractic. 1985. 19 (11) 59-65.

[8] Razi, ABMBZ, 1997: *Al Havi Fit Tibb. (Urdu Translation by CCRUM).* Vol. 11. Ministry of Health and Family Welfare, Govt. of India, New Delhi, 75-85.

[9] Arzani, A. *Tibbe Akbar. (Urdu Translation by Kabiruddin M).* Idara Kitab us Shifa, New Delhi, YNM: 222-223,615-617.

[10] Jurjani, I., 1903: *Zakheera Khawazam Shahi. (Urdu Translation by Khan HH).* Vol. 6. Munshi Naval Kishore, Lucknow, 635,636.

[11] Anthony, E., 2010: *Low Back Pain Guideline Update.* University of Michigan Health System, Michigan, 14.

[12] Raftery, A.T., 2005*: Differential Diagnosis.* 2nd Ed. Churchill's Pocket Books, New York, 46-51.

[13] Khan A. Al Akseer (Urdu Translation) by Kabeeruddin. Vol. 2. Idara Kitab us Shifa. Daryaganj, New Delhi, YNM: 833-834.

[14] Adebajo, A., 2010: *ABC of Rheumatology*. 4th Ed. Blackwell Publishing Ltd., UK, 21-26.Kendall, H.O., 1993: *Muscles Testing and Function*. 2nd Ed. Williams and Wilkins, USA, 349-361.

[15] Russells RCG., 2004: *Bailey & Love's Short Practice of Surgery*. 24th Ed. London, 564-568.

[16] Canale, T.S., 2003: *Campbell's Operative Orthopedics.* 5th Ed. Elsevier Science, USA. 676-678.

[17] Ogle, A.A. *Diagnosis and Management of Acute Low Back Pain*. Am Fam Physician. 2000. 61 (6) 1779-1786.

[18] Shah, M.H., 2007: *The General Principles of Avicenna's Canon of Medicine*. 1st Ed. Idara Kitab-ul-Shifa, New Delhi, 305-307.

[19] Ahmad, J., 2008: *Tazkirah Jaleel (Urdu Translation by Ccrum).* Ministry of H&FW, Govt. of India, New Delhi, 358-360.

[20] Tabari, R., 2002: *Firdaus ul Hikmat*; Faisal Brothers, New Delhi, 290-292.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 132-136, Article ID Med-110
ISSN: 2320 – 0251

Review Article | Open Access

Concept of Arthritis in Unani System of Medicine

Younis Munshi, Huma Rafique, Zahoor Ahmad, Riyaz A. Pnadit, and Sabia Rasool

Regional Research Institute of Unani Medicine, Srinagar, Jammu and Kashmir, India

Correspondence should be addressed to Younis Munshi, younismunshi@gmail.com; younis.munshi@gmail.com

Publication Date: 19 October 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-110

Abstract The objective of the study was to ascertain the classical literature regarding Arthritis in Unani System of Medicine. The Unani System of Medicine is one of the Indian System of Medicine which has been in the healthcare delivery system of India since centuries. The system of Medicine has been introduced in India by Mughals and was further propagated by the local Indian Hakeems known for their sharp mindset. Arthritis has been one of the major concerns of the health since time immemorial. The Unani System of Medicine has been able to differentiate different types of Arthritis. The Unani literature and classic text books were searched in Regional Research Institute of Unani Medicine Srinagar, Jamia Hamdard and CCRUM libraries. Also search regarding Unani and Arthritis was given to Google, Pubmed, and Medline. Except for the classical literature very less information is available on the net. While as classical literature has ample amount of know how regarding the disease.

Keywords *Waja-ul-Mafasil; Niqras; Irqun Nisa; Gout; Sciatica; Wajaul Zuhr*

1. Introduction

Greece in Arabic, Persian and Urdu is known as Unan and since Hippocrates was basically a Greek physician and being the father of Medicine as such the Unani Medicine came into existence. The History of Unani Medicine dates back to 375 AD when *Madrasa Jundishapur* was established by King Shapur in Iran. He was able to gather physicians from Rome, Greece, Egypt, India and Arabia who translated the medical literature of their own countries into initially Persian and then into Arabic. The whole concept of Medicine revolved around the theories laid down by Hippocrates and Galens.

When Muslims conquered Persia the *Madrasa Jundishapur* came also under their control and they started infusing more and more intellects into the School which flourished leaps and bounds. During the Muslim rule the Medicine got evolved in three stages:

1) Translation of old testimonials available at that time;
2) Experimentation by the renowned scholars of Medicine;
3) Decline of the Muslim influence due the propagation of Western Medical System.

The Unani System after its decline due to British rule who promoted the Western system of Medicine remained as ruminants in Indian subcontinent. It was Hakeem Ajmal Khan of Delhi who established Unani and Ayurvedic Medical Colleges during the British rule in first quarter of 20th century AD which helped in keeping both the system of Medicine alive as we see it today (Hassan Nigrami, 1989).

2. Methodology

The Unani literature and classic text books were searched in Regional Research Institute of Unani Medicine Srinagar, Jamia Hamdard and CCRUM, New Delhi libraries. The texts of Unani, Wajaul Mafasil, Unani Medicine and Arthritis was written on the search engines of Google, PubMed, Medline, EPub which revealed almost 25 papers regarding the subject. After the sorting of these papers which were downloaded from the net only 3 papers were having relevant information regarding the subject. Which means little information regarding the Wajaul Mafasil (Arthritis) in Unani Context is available on the internet. So the authors relied mostly on the classical literature of Unani Medicine.

3. Discussion

In the Unani context the arthritis is being termed as *Wajaul Mafasil* which in broader terms means pain in joints. *Wajaul Mafasil* is used to describe all kinds of joint disorders including pain, swelling, and stiffness. It has been described as *Wajaul Mafasil Aam* (arthritis), *Wajaul Zuhr* (back pain), *Niqras* (gout) and *Irqun Nisa* (sciatica) etc.

When all the joints of the body are painful it is called as *Wajaul Mafasil Aam* (*Majoosi A.A.I.A., 1889*), when pain and inflammation is in the smaller joints of hand it is *Wajaul Mafasil Khas* (Rheumatoid arthritis). *Wajaul Mafasil* has been described as *Gatthia* in Hindi texts (*Jurjani A.H., 1903*). In *Wajaul Mafasil* pain occurs in joints of hand, feet, knees, and ankle joints. *Wajaul Mafasil* is also seen in temporomandibular joints and vertebrae (*Khan M.A., 1939*).

3.1. Classification

Consideration of the types of *Khilt* (Humours) causing *Wajaul Mafasil* (Arthritis) leads to its division into four types:

1) *Wajaul Mafasil Balghami* (Phlegmatic)
2) *Wajaul Mafasil Damvi* (Plethoric)
3) *Wajaul Mafasil Safravi* (bilious)
4) *Wajaul Mafasil Saudavi* (Melancholic)

According to *M Azam Khan*, the classification has been described on the basis of temperamental imbalance as *Wajaul Mafasil Sada*, which is caused by *Su-e-Mizaj Maddi* which is accompanied by the humoral imbalance and is being further divided into 3 types:

1. ***Wajaul Mafasil Mufrad*** This type of *Wajaul Mafasil* is caused by the abnormal change in the one of the four humours and has been categorized into; *Wajaul Mafasil Balghami*, *Wajaul Mafasil Damvi, Wajaul Mafasil Safravi* and *Wajaul Mafasil Saudavi*.

2. ***Wajaul Mafasil Murakkab*** When the change is in more than one humour and at least two humours are involved i.e. *Safra (Yellow bile)* with *Sauda (Black Bile)*, *Dam (Blood)* with *Balgham (Phlagma), Dam* and *Safra* etc.

3. ***Wajaul Mafasil Reehi*** This type of *Wajaul Mafasil* is caused by the *Reeh Ghaleez* literally meaning (Bad Gases).

4. Aetiology as Per Unani Classics

According to *Sahibe Kamil* the etiology of *Wajaul Mafasil* is so obscure and complicated that it is not possible to pinpoint the exact causative factor. According to *Ibne Sina* the psychic factors play a prominent role in the causation of this disease. Other factors, which are responsible for the disease, include hereditary & joint weakness etc.

Madda (Substance): According to *Samarqandi* the *madda* (substance) which is responsible for the cause of *Wajaul Mafasil* is of a very thick consistency and white in colour, whereas *Ibn Sina* states that this *madda* almost resembles to pus (*Reem*).

The humours responsible for the development of *Wajaul Mafasil* may be one or more of the following:

1) *Balgham (Phlegm)*
2) *Dam (Blood)*
3) *Safra (Yellow Bile)*
4) *Sauda (Sanguine or Black bile)*

Ibn Sina also mentioned that *Wajaul Mafasil* is caused by phlegm, blood, yellow bile and black bile in the decreasing order of frequency as follows:

- *Wajaul Mafasil Balghami* is more common.
- *Wajaul Mafasil Damvi* is common.
- *Wajaul Mafasil Safravi* is less common.
- *Wajaul Mafasil Saudavi* is rare.

The *Madda* (Substance) causing *Wajaul Mafasil* accumulates in the joints due to the weakness of the joint called as *zauf-e-mafasil* (*Majoosi, 1889*).

Wajaul Mafasil is caused by accumulation of *Mawad-e-Fasida* (Literally meaning Toxic Substances) in the joint which happens due to following factors:

1) Joint movement
2) Joint space
3) Joint fluid

The feature of the joint is that it attracts the fluid (*Ratoobat*) towards itself. The joint movement is responsible for this. The *mawad* moves towards the joint by the movement of the joint and the heat produced by the joint movement. The feature of the heat is that it attracts the fluid towards itself.

The joints of the body have no power of absorption (*Quwat-e-Jaziba*) and as the absorption of the fluid according to Unani Physicians depends on the heat and as the bones, cartilage, ligaments, etc. which are the major constituents of the joint are having cold and dry temperament, so the *Khilt* which enters the joint cannot be reabsorbed and thus gets lodged in the joint.

Since the joints does not have the excretory power (*Quwat-e-Dafe'ah*) as well so the bad matter which needs to be excreted gets lodged in the joints and thus leading to disturbances in the joint. The *Khilt*

in the joint gets putrefied and gets converted into the harmful products which then induce *Wajaul Mafasil*.

The above-mentioned causes are known as *asbabe asli* i.e. primary causes (*Jurjani, 1903*).

4.1. *Asbabe Arzi* or Secondary/Precipitating Factors

There are total of 7 aggravating factors mentioned in the Unani classics:

1) Giving up the exercise (*Tarke Riyazat*)
2) Weakness of stomach (*Zaufe M'ada*) leading to the absorption of impaired matter
3) Derangement (*Su-e-Tarteeb*)
4) Sedentary life style
5) Regular and excessive use of alcohol
6) Excessive coitus and exercise after meals
7) Cold and catarrh

Other causes of accumulation of bad humours in the joint are as follows:

1) Giving up the voluntary habitual excretion (*Tarke Istefragh-e-Aadati*) e.g. vomiting, purgation, venesection etc.
2) Cessation of normal involuntary excretion e.g. menstruation, piles etc.
3) Intestinal colic
4) Drinking of water on empty stomach
5) Anxiety, depression, insomnia etc.

5. Pathogenesis

Su-e-mizaj (derangement in temperament): According to the Unani Medicine the term *mizaj* (temperament) is used to describe the normal biochemical equilibrium of the cells, tissues, organs and body as a whole. Any change in this equilibrium is termed as *su-e-mizaj* or derangement of temperament.

Wajaul Mafasil is caused by an abnormal change in the body equilibrium due to the derangement of the temperament, which may affect either a whole body or may be confined to the vital organs (*A'aza-e-Raeesa*).

This abnormal change in the temperament causing arthritis is of 3 types:

1) *Su-e-Mizaj Har Multahib*
2) *Su-e-Mizaj Barid Munjamid*
3) *Su-e-Mizaj Yabis Munqabiz*

Also it has been mentioned that *Su-e-Mizaj* causing arthritis is of two types:

1) *Su-e-Mizaj Saada*: When the derangement is based on the temperament without the involvement of the humours.
2) *Su-e-Mizaj Maddi*: When the derangement involves humours or gasses.

Thus if all the above information is taken into consideration there is more comprehensive mention of all the types of the Arthritis in the Unani literature and in those days of life when the avenues were very much less the physicians were able to differentiate the different types of arthritis.

There has been very little addition to the types of arthritis in today's modern era when the sophisticated machinery is involved, lot investigations take place and we have modern tools of diagnosis.

References

Jurjani Ahmad Hassan, 1903: *Zakhira Khawarazam Shahi.* Vol. VI. Urdu Translation by Hakim Hadi Hussain Khan. Published by Munshi Nawal Kishore Lucknow; 637-648.

Majoosi A.A.I.A., 1889: *Kamilu-Sana.* Translated in Urdu by Ghulam Hussain Kantoori and Published by Nawal Kishore Lucknow, India; 503.

Khan M.A., 1939: *Akseer-e-Azam*. Published by Matba Nizame Patgapur Kanpur India. Vol. 4. 13-52.

Sina I. *Al Quanoon Fil Tib*. Vol. 2nd (Urdu Translation by Kantoori G H), Idara Kitab Alshifa, Delhi, 1119-25, 2007.

Ahmad I. *Kulliyate Asri*. New Public Press Delhi; 32-85, 1983.

Hassan Nigrami, 1989: Tareekhi Tibb Published by National Council for Promotion of Urdu Language, New Delhi; 194-195.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 137-142, Article ID Med-111
ISSN: 2320 – 0251

Review Article | Open Access

An Overview of *Niqris* (Gout) and its Interpretation with Hyperuricemia

Nasimul H., M.A. Siddiqui, Arshid I.Q., and M.D. Sarfraz

Department of Moalajat, National Institute of Unani Medicine (NIUM), Bangalore, Karnataka, India

Correspondence should be addressed to Nasimul H., nasimulhasan14@gmail.com

Publication Date: 21 October 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-111

Abstract There is a comprehensive description of *Niqris* in classical Unani literature. Ancient Greco-Arabic scholars have described *Niqris* in detail along with its clinical features, Etiopathogenesis, complications and management in their treatises. According to Ibn Sina *Niqris* is a type of pain which sometimes starts from fingers, toe and sometimes from heel. In unani system of medicine the term hyperuricemia as such is not described at all, but a disease with the name of *Niqris* has been mentioned in most of the classical text, whose clinical presentation and causes very much resembles with the gout (which occur due to hyperuricemia). Gout is a common metabolic disorder, typically presenting as an acute monoarthritis, most commonly of the first metatarsal phalangeal joint. The underlying problem is a build-up of urate, a purine breakdown product. Unani physicians claim to possess many safe and effective drugs for the management of *Niqris*. Therefore, it is one of the areas which have to be given priority in scientific research in Tibbe Unani.
Keywords *Niqris*; *Hyperuricemia*; *Gout*; *Unani Medicine*

1. Introduction

According to the renowned Unani physician, Buqrat (Hippocrates), *Niqris* is a joint disease which is caused due to excess of one of the four humors, which under certain circumstances, drop or flow into a joint causing pain and inflammation [1]. Gout is the term used to describe a group of disorders which results from tissue deposition of crystals of monosodium urate monohydrate from hyperuricemic body fluids. It is usually a monoarticular arthritis, although uncommonly presents as a polyarticular disease. It is characterized by intra-articular deposition of uric acid crystals. It is associated with hyperuricemia, which may be produced by thiazide diuretics [2, 3, 4].

Hyperuricemia denotes an elevated level of urate in the blood. Hyperuricemia alone is not the sole factor for the development of clinical disease. Tissue deposition of crystals of monosodium urate and resulting clinical symptoms and signs of gout usually only follow prolonged elevation of serum urate. In unani system of medicine the term hyperuricemia as such is not described at all, but a disease with

the name of *Niqris* has been mentioned in most of the classical text, whose clinical presentation and causes are very much resembles with the gout (which occur due to hyperuricemia). Gout is more common in men, the sex ratio being 20:1 and the mean age at onset 40 years; in women, the onset of gout is postmenopausal [5]. Hyperuricemia is a result of multifactor interactions including gender, age, genetic and environmental factors. Classically, the following conditions are associated with hyperuricemia: alcoholism, obesity, hypertension, dyslipidemia, hyperglycemia, diabetes mellitus, lithiasis, renal failure, and medication use (diuretics, cyclosporine, and low-dose aspirin) [6]. Owing to dreadful complications of Gout and lack of safe and effective drug for its management, it becomes a thrust area for research, in every field of medical science. The researchers of different systems of medicine are continuously concentrating themselves for the development of safe and effective drug for the management of Gout. As far as the Unani system of medicine is concerned, *Niqris* is being treated since Greco-Arab period. Unani physicians claim to possess many safe and effective drugs for the management of *Niqris*.

2. Epidemiology

In the general population, the prevalence of hyperuricemia ranges between 2 – 13.2%, and the prevalence of gout is between 1.3 and 3.7%. [7].

Prevalence of hyperuricemia varies according to the age, sex, race, geographical conditions and association with other diseases [8]. Gout becomes commoner with increasing age. In men the reported prevalence ranges from < 0.5% in those aged under 35 to over 7% in those aged over 75. It is rare in premenopausal women but increases to 2.5 – 3.0% in those aged over 75. The later age of onset in women may relate to the uricosuric effects of oestrogens [9].

3. Classification

3.1. Acute Gout

Acute monoarthritis results from an acute attack. Severe pain, erythema, and swelling are the characteristic features of the disease. The most commonly affected joint is the first metatarsophalangeal joint (podagra), followed by knee, ankle/metatarsus, wrist, and fingers. Polyarticular gout is less common but can occur, in those individuals who had repeated disease flares. The risk for gout is directly proportional with the degree of hyperuricemia. Acute gout is self-limited and symptoms typically resolve over the course of days to weeks [10].

3.2. Intercritical Gout

Patients of gout are usually asymptomatic in between sporadic episodes of acute arthritis. The management of patients with intercritical gout focuses on the prevention.

3.3. Chronic Tophaceous Gout

Large deposits of uric acid occur within joints or in the soft tissues, particularly around the pinna of ear, in chronic tophaceous gout. In these patients, there is substantial X-ray changes, calcification of urate deposits with soft tissue swelling and even erosions of phalangeal bone [8]

4. Etiology

The etiology of gout is multifactorial. There is a genetic component, but the operation of other factors justifies the inclusion of gout under the heading of acquired disorders. Etiological factors include:

- Gender (male > female);
- Family history;
- Diet (meat, alcohol);
- Socioeconomic status (high > low).

Alcohol consumption is a particularly common factor in promoting hyperuricemia by increasing urate production.

According to Unani literature, etiological factors of *Niqris* include excessive eating, sedentary life style, excessive intercourse especially just after eating food and lack of exercise [8, 9, 10, 11]. The active cause of *Niqris* is *Sue Mizaj* and *Raddi Mawad* (morbid materials). The morbid matter which reaches upto the joints may be of *Damvi*, *Safravi, Saudavi* or *Balghami* in nature [11]. The morbid humour may be mixed with and composed of phlegm and *mirrah* or any type of *madda* or *riyah*. The most common cause of *Niqris* is bile mixed with *phlegm* (Balgham with safra*)*, then blood (*Dam*), and *sauda* is the rarest cause [12].

5. Pathogenesis

Niqris (Gout) is produced when the *madda* spells (falls) towards the lower extremities, expelled by the Vital Faculties (*Aazae Raisa*) of the body towards these extremities, which are not able to expel these matters [13]. In over 75% of patients who present with gout, there is a decrease in uric acid clearance by the kidney but the underlying cause of this is not known. In a few patients, there appears to be an idiopathic increase in the rate of purine synthesis leading in turn to increased uric acid production. The increased cellular turnover associated with a wide variety of different malignant disorders and other diseases is a common cause of secondary gout. The stimulus to the acute inflammatory reaction in acute gout is the deposition of monosodium rate crystals in the synovium and adjacent connective tissues of the joints [8]. Hyperuricemia are necessary for the development of gout. Crystal deposition can only occur when the serum is saturated with urate: ≥ 0.42 mmol/l [9].

6. Clinicopathological Feature

The clinicopathological features of gout are as follows:

- Males usually affected;
- Onset 40- 60 years, familial tendency;
- Acute inflammatory monoarthritis- more than one joint involved in 10%;
- Raised plasma uric acid (0.5mmol/l);
- Deposition of monosodium urate crystals in joints;
- Variable incidence of uric acid renal calculi;
- Mild intermittent proteinuria with focal interstitial nephritis;
- Untreated patients may progress to chronic gouty arthritis and renal failure [8].

7. Diseases Associated with Hyperuricemia and Gout

Most serious complication of gout is renal disease. The incidence of renal calculi in gout varies from country to country and the reason is not clear. In Western Europe it is of the order of 10% and gout should be considered in any patient who presents with renal colic.

Mild proteinuria is found in a proportion of patients but very few progresses to chronic urate nephropathy and renal failure. Urate crystal deposition in renal tubular epithelium induces cellular necrosis, chronic interstitial nephritis and fibrosis. Obesity, alcoholism, hypertension, Ischemic heart disease, various forms of hyperlipoproteinaemia and impaired glucose tolerance are associated with gout [8].

8. Usoole Ilaj (Line of Treatment) and Ilaj (Treatment) [1, 11, 12, 14]

In case of *Niqris Har Safravi,* avoid *Tabreed* i.e. application of barid material over the affected part because this may leads to diversion of *Mawaad* (Matter) towards the *Aazae Raisa* (vital faculties), and may cause death.

In case of *Niqris Damvi,* Maseehi recommend the use of all those tadbeer (regimens) by which the volume of blood can be reduced, while in case of Niqris *Safravi* he advice to use *mushile safra*, e.g. *Aloo Bukhara, Shahtra, Afsanteen, Sibr and Saqmoonia.*

If ***balghami***: Then do *tanqia* with drugs which are *mukhrije Balgham*.

For ***Tabreed***: Apply *Zimad* with *vinega*r and *Roghane Gul*, or *aarade jau* and *Rogh. Gul*.

In between two *Mushil, Nuskhae Tabreed* should be given. In which *khameera gauzaban* or *Khameera Banafsha* should be given with *luabiat.*

For ***Niqris Safravi*:** To expel the *madda*, *maamoole matab Nuskha* (single dose)

Sibr 3.5 *Masha, Saqmoonia,* 6 *Ratti*, *Gule Surkh* 1 *Masha, Suranjan safaid* 1.75 *Masha*. Make pills and use them.

***Niqris Muzmin* (Chronic Gout):** Affected organ must be dipped in hot water for some time and then dip this organ into cold water gently.

Nutool: with *matbookh* (Decoction) of *Shaljam* (Turnip) is much beneficial for *Niqris Barid.*

If *madda* of *Niqris* is *Khilte Ghaleez Barid* then first know about its *Kamiat* (quantity) and *Kaifia't*.

***Qai*:** For *Tanqiae Madda*

***Huqna* (Enema):** *Qantaryun raqeeq, Zarawand taweel, Rogh sumbul Wa Shahad*

For *Tanqiae* madda: *Hab Muntin, Hab Sheetraj, Hab Suranjan.*

For *Tadeel Mizaj* and to Prevent *Madda* from Coming into the Joints: *Majoon Hurmas* or *Tiryaqe Kabir* is used-

If *khilth* is *Saudavi Ghaleez*, then avoid use of more *Mujaffif* drugs, instead apply *zimad* of *Khardal*, *bazr katan* and *Qataf* like drugs for *Tiskeen* and *Talayyen*, and do *tanqia* of the body with *aftimoon, Bisfaij* and *Kharbaq siah.*

If madda is *murakkab* then apply *murakkab tadabeer* according to it, and advice the *mushil* to drink.

Halaila zard 4.5 *tola*, *turbud safaid*, *Bisfaij, sana makki, shahtra* each 14 *masha, suranjan safaid, tukhm kasni, karafs, badyan, gule surkh* each 7 *masha* should be taken and make decoction of it 2 *sair* of water till it remains 0.5 *sair,* and add sugar to it.

Use of *Habbe suranjan* and *Habbe mahtabi* is also beneficial. *Roghane Hanzal* is also useful in *Niqris* and *Wajaul mufasil.*

Commonly used drugs are *Habbe Najah*, *Habbe Muntin*; *Ayarij Roofas*. These drugs are very useful in *Niqris* and *Sciatica*.

9. Conclusion

It may be concluded that *Niqris* is a humoral disease occurring as a result of imbalance in the quality and quantity of one of the four humors and results in severe pain and inflammation in joints. A number of drugs have been evaluated by the researchers of main stream medicine which possess potent and effective uricosuric activity; but the long term use of these drugs frequently leads to the development of side effects such as hypersensitivity reactions. Unani medicine axiomatically claims for successfully treating this disease since a long time without any unwanted effects.

References

[1] Hussain, S.A. Jahane Tib. CCRUM. 2003. 5; 36-42.

[2] Habermann, T.M., 2006: *Mayo Clinic Internal Medicine Review.* Seventh Edition. Mayo Clinic Scientific Press; 378-79.

[3] Khanna D., 2012: *American College of Rheumatology Guidelines for Management of Gout.* Part 2: Therapy and Anti-inflammatory Prophylaxis of Acute Gouty Arthritis. American College of Rheumatology. 64; 1447-1461.

[4] Wallace, K.L. *Increasing Prevalence of Gout and Hyperuricemia Over 10 Years among Older Adults in a Managed Care Population*. The Journal of Rheumatology. 2004. 31 (8) 1582-1587.

[5] Souhami, R.L., 2004: *Text book of Medicine.* 4th Ed. Churchill Livingstone Elsevier, New York; 1120.

[6] Liu, B., 2011: *The Prevalence of Hyperuricemia in China: a Meta-Analysis*. BMC Public Health; 1-10.

[7] Fauci, A.S., 2008: *Harrison's Principles of Internal Medicine*. 17th Ed. Vol. II. McGraw Hill, New Delhi; 2447.

[8] Underwood, C.E., 2000: *General and Systematic Pathology*. 3rd Ed. Churchill Livingstone; 726-27, 131-132, 577.

[9] Adebajo, A., 2010: *ABC of Rheumatology.* 4th Ed. Blackwell Publishing Ltd, UK; 59-61.

[10] Bullough, P.G., 2010: Orthopaedic Pathology. Mosby Elsevier; 289-91.

[11] Khan M. Aazam., 2011: *Akseere Aazam (Al Akseer, Urdu translated by Mohd Kabeeruddin*). Idara Kitabul Shifa, New Delhi; 846-47.

[12] Ibn Sina. *141 Hijri: Al Qanoon fit Tib (Arabic).* Vol. 3. Jamia Hamdard, New Delhi; 1146-57.

[13] Qamari, A.M.H., 2008: *Ghina Muna (Urdu translation Minhajul Ilaj).* CCRUM, New Delhi; 342-351.

[14] Majoosi, A.I.A., 2010: *Kamilus Sanaa.* Vol. I. (Urdu translation by Kantoori GH) Idara Kitabus Shifa, New Delhi; 507-11.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 143-147, Article ID Med-113
ISSN: 2320 – 0251

Research Article | Open Access

To Study the Efficacy of Ayurvedic Dhoopan for Operation Theater Sterilization

Anantkumar V. Shekokar and Kanchan M. Borkar

Department of Shalya Tantra, S.V.N.H.T's Ayurved Mahavidyalaya, Rahuri Factory, Maharashtra, India

Correspondence should be addressed to Anantkumar V. Shekokar, dranantkumarshekokar@gmail.com; drkanchanborkar@gmail.com

Publication Date: 21 November 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-113

Abstract Since *Vedic* period *Homa-havana* and *Yadnya*, sterilization of air by *Agnihotra*, sterilization of house & place around it by *Dhoopan*, is going on traditionally. Also it is useful in branches of *Ayurveda* like *Shalya, Shalakya, Kaumarbhrutyat and Prasutistreeroga. Sushruta* has also explained the method of treating *Vrana, Vranitaagara and Shastrakarmaghruha* by this method of *Dhoopana.* Hence present experimental study was planned to study the efficacy of Ayurvedic *Dhoopana Dravya* like *Guggulu, Aguru, Sarjarasa* and *Sarshapa,* added with *Lavana, Nimbapatra & Ghee*. After *Dhoopan* process swab were collected & send to laboratory for testing and significant results was obtained.

Keywords *Dhoopana; Fumigation; Swab; Guggulu; Bhutavidya; Rakshoghnadravyas*

1. Introduction

Maharshi Sushruta developed most of the part of surgery after *Bhagwana Dhanvantari*. He was the first to make advances in respect of body dissection to get the perfect knowledge of anatomy. He developed many *Yantra, Shastra* and surgical technique that are accepted today even by modern science. He was first to introduce use of alcohol for the purpose of anesthesia [1]. He had demonstrated types of fractures, bandages and burns, in which nothing can be added extra as per modern surgical science. He demonstrated not only obstetrics but also various *Ayurvedic* techniques like *Agnikarma, Ksharkarma and Raktamokshana.* No doubt, everyone knows him as a "Father of Surgery" for his systematic and basic principles of surgery in *Sushrut Samhita.*

There are millions of micro-organisms around us, in air, cloths etc. The dead cells fallen from the surface of the body carries thousands of such organisms and to our surprise, it countributes almost 37% of our house hold dusts. Not only this, even gram positive cocci called staphylococcus Aureus lives in nostrils of 30% population [2]. All the things around us can get contaminated by such organisms. They are harmful and pathogenic, especially on open wounds, incision, scars and can

results them into major complications. Thus it carries a lot of importance to disinfect the operation theatre before proceeding to any major or minor operative procedures [3].

In *Ayurveda, Achararya Sushruta* as described above was the one, who developed the surgery most, in his *Sushruta Samhita*, he has advised to do dhoopan with *Rakshoghna Dravyas* [4]. He has stated many combination & different types of *Dhoopa* for different types of organisms.

Whether one believe it or not, but all our ancient literature proves on more or less extend that, though the terminology was different i.e., *Bhutavidya* means microbiology. But our *Aacharyas* had very detailed knowledge about human anatomy, principles of remaining healthy & medicinal cure. *Acharya Charaka* gives *Dhoopana* for *Varna Chikitsa* [5]. In *Ashtanga Sangra* there is description of *Dhoopana* in *Rakshavidhi*. Also there is advise of *Dhoopana* to the *Sutikaagara* with the help of *Dravyas* mentioned in *Vrana Chikitsa* [6], *Acarya Kashyapa* has given separate *Dhoomakalpaadhyaya* for *Dhoopan*a, aim of this *Adhyaya* is to keep *Sutika* and new born healthy. He has described different *Dhoopas* and also advised in *Garbhaavastha, Dhoopana* of bed, clothe, chair and whole *Sutikagruha*. It shows that *Dhoopana* is helpful in disinfecting environment of that particular area [7]. *Acharaya Sushruta* mentioned aseptic precautions before any surgical procedures, all instruments being used should be heated up to red hot to prevent infection [8]. From above references we can conclude that *Ayurvedic* drugs have efficacy for sterilization so this attempt is made to check the efficacy of *Ayurvedic Dhoopana Dravyas*.

2. Aims and Objectives

To study the efficacy of *Dhoopana Dravya* for Operation Theather fumigation.

2.1. Drug Study

In the Present study followings drug combination was used [9]. Eacg drug taken 100 gm in powder form.

Table 1: *Properties of Experimental Drugs for O.T. Fumigation*

No.	Dravya	Latin Name	Rasa	Virya	Vipaka	Karma
1	Ghrut	------	Madhur	Sheeta	Madhur	Rakshoghna
2	Sarshap	Brassica Nigra	Katu	Ushna	Katu	Rakshohara & Krimighna
3	Vacha	Acorus Calamus	Katu,Tikta	Ushna	Katu	Bhuta-jantvahara
4	Guggul	Commiphora Mukul	Katu, Tikta,Kashaya	Ushna	Katu	Krumijayeta
5	Nimba	Azadirachta I ndica	Katu, Tikta, Kashaya	Sheeta	Katu	Krumipraneta
6	Agaru	Aquilaria Agollocha	Katu, Tikta,	Ushna	Katu	Kruminashaka
7	Sarjarasa	Resina of shorear obusta Gaerten	Tikta, Kashaya	Sheeta	Katu	Grahanashaka
8	Lavana	Sodium Chloridum	Lavana	Sheeta	Madhura	Sushma

Above mentioned experimental drugs in Table 1 which was used for O.T. fumigation, in present study drugs are Rakshoghna, Krimighna and Grahanashaka in action and hence tried for O.T. fumigation. All above mentioned drugs in Table 1 are shown in Figure 1.

Figure 1: *Ingredients of Experimental Drugs for O.T. Fumigation*

2.2. Place of Work

Shalya Tantra Department operation theater of SVNHT's *Ayurved Mahavidhyalaya*, Shri Shivaji Nagar, Rahuri, District- Ahmednagar, Maharashtra, India.

2.3. *Dhooopan* Procedure

In present clinical experimental study when we tried to study the effect of *Ayurvedic Dhoopana* is described as below. The preparation of O.T. fumigation procedures like locking of all the windows and ventilators or making air tight using plasting P.V.C. tape & switching of fan & AC. The doors were also packed with tape with after *Dhoopana* & O.T was kept unentered for not less than 12 hours. The O.T. was allowed to use next day. There is no authentic & similar method given in any samhita as a specific, we had tried as below. Firstly we placed one trey in central part of O.T. & experimental drug powder was kept in a treyl. A little methylated spirit is poured over the cured powder to ensure burning of the powder completely. Little fire to the powder and close the door. The O.T. is opened after 12 hours.

The swab were collected as schedule, from

i) Operation table
ii) Over head lamp
ii) Walls
iv) Instruments trolley
v) Ceiling

The swab was send to laboratory for testing.

***Figure 2**: Burning of Experimental Drugs Powder in O.T. for Fumigation*

3. Observations and Discussion

The swab reports of O.T. *Dhoopana* were surprisingly similar to modern technique of formalin fumigation & very promising i.e. results read as “No microbes found” (Satisfactory). But then a query stucked our mind later on, questioning that there may be a possibility that there were no microbes present even before the *Dhoopana* procedure was performed. So obviously the results had to be negative, whether *Dhoopana* was done or not. When we thought of this possibility, we come to a conclusion that this was quite possible because of very hygienic conditions that were being maintained at O.T. & aseptic precautions that were practiced.

In our view, though with some very good results, the “No effect” (Satisfactory) results cannot be neglected or made unseen.

To come out of this dilemma, we were advised by laboratories to go for to see *Dhoopana* Drug effect on bacterial colony count and some advanced experiments using each drug individually for inoculation on those bacterial colony and thus non affecting drug can be retained out of the regimen & thus increasing the efficacy of our drug mixture. But due to enormous expense that was quoted by laboratories, it was beyond the scope of this experiment study, otherwise of which some sponsorship was required for further research in this direction.

4. Conclusion

Ayurvedic Dhoopana may be less effective but it showed significant results & can used as insects repellent, room purifier & air freshener. At least observation obtained from present study shows that our drug is full of potentials like a rough piece of carbon, but a diamond needs to be carved out after a deep research, both in terms of facilities & financial support by means of sponsorship or scholarship.

References

[1] Anantram Sharma. *Sushruta Samhita Part-1*. Chokhamba Surbharati Prakashan, Varanasi, 1st Ed., 2004. 42.

[2] Bailey and Love. *Short Practice of Surgery*. Oxford University Press Publication, New York, 23rd Ed., 2000. 123.

[3] Bailey and Love. *Short Practice of Surgery*. Oxford University Press Publication, New York, 23rd Ed., 2000. 120.

[4] Anantram Sharma. *Sushruta Samhita Part-1*. Chokhamba Surbharati Prakashan, Varanasi, 1st Ed., 2004. 149.

[5] Pt. Kashinatha Shastri. *Charaka Samhita Part-2*. Chokhamba Bharati Acadamy, Varanasi, 4th Ed., 2001. 714.

[6] Atridevgupta. *Ashtanga Sangra Part-1.* Choukhamba Bharati Acadamy, Varanasi, 2nd Ed., 1999. 131.

[7] Shrisatyapala Bhishagacharya. *Kashyapa Samhita. Choukhamba Sanskrut Sansthana*, Varanasi, 1st Ed. Reprint 2009. 171-173

[8] Anantram Sharma. *Sushruta Samhita Part-2*. Chokhamba Surbharati Prakashan, Varanasi, 1st Ed., 2004. 181.

[9] Bhavprakash Nighantu and Shri Bhramhashankar Shastri. Vidyotini Hindi Vyakhya, Poorvardha, Chaukhamba Sanskrit Samsthan, Varanasi, 1st Ed. 1984. 43, 154, 194, 211, 204, 328, 654, 775.

Cloud Publications
International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy
2013, Volume 2, Issue 1, pp. 148-161, Article ID Med-116
ISSN: 2320 – 0251

Review Article | Open Access

Concept of Abhava Pratinidhi Dravyas, a Rational Substitution of Drugs- a Review

Charusheela M. Giri

Department of Dravyaguna Vidnyan, D.Y. Patil College of Ayurved & Research Institute, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Charusheela M. Giri, charuayur@yahoo.com

Publication Date: 19 December 2013

Article Link: http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-116

Abstract Pratinidhi Dravyas are substitute drugs utilize for the drugs which are not available. It mainly deals with rational substitution intentionally selected of crude drugs required for medicinal purpose. This concept is referred from one of the Laghutrayi, Bhavapraksh written in 16th century A.D. As the list of substitute is first of its kind and this Nighantu is considered as latest among classical work in Dravyaguna Shastra. Substitution is based on Ayurveda principles, that both the drugs Abhava Pratinidhi should possess similar Guna i.e. Rasapanchak and proven on basis of pharmaco-therapeutically activity. Pratinidhi drugs serves to overcome the problem of un-available drugs due to scarcity, rare or difficult to procure. This in a way helps to produce good quality herbal products and lend a support in conservation and sustainability of medicinal plants. With proper revalidation of existing documented examples there is always a scope to find out new substitutes for Abhava Dravyas of todays time.
Keywords *Abhava Pratinidhi; Rational Substitution; Availability of Medicinal Plants*

1. Introduction

Pratinidhi is a unique concept about usage of substitute drug in the absence of an original drug (Abhava Dravya) [1, 5]. Pratinidhi means representation, substitute or vicegerent [2]. This concept has been mentioned by Bhavmishra (16th Century A.D.). It is evident that inclusion of number of medicinal plants in Ayurveda classics from Vedic period to Nighantu period has been increased. Unfortunately, the trend of documenting medicinal plants in Nighantu (lexicons) style is lost. Pratinidhi concept too was ignored. Charak has emphasized regarding the qualities of Ideal drug (Prashasta Bheshaja) for medicinal purpose should possess following aspects i.e. Bahuta (readily available & in abundance), Yogyatva (Eligible for Therapeutic uses), Anekvidha Kalpana (capacity to be formulated in varied type) and Sampat (Potential) [5, 6, 7]. Today over three quarters of world population relies on herbal plants and products for health care, as they symbolize safety in contrast to synthetics. In India nearly 9,500 registered herbal industries and a multitude cottage level herbal unit depends upon continuous supply of medicinal plants for manufacturing herbal medical formulation. In fact, the major wild

resource of medicinal plant required for herbal Industry is facing shortage due to non-availability of genuine plants due various problems like over-exploitation, deforestation, loss of habitat, extinction of rare plants, indiscriminate harvesting impairing the availability of raw drugs. The demand of medicinal plant is ever increasing but fails to meet supply with authentic drug giving rise to adulteration and irrational substitution affecting efficacy and safety of herbal medicines. Non-availability was very well sensed after the Samhita period and from medieval period evolved the concept of Pratinidhi Dravya. Ashtang Hridaya while describing 33 groups of plants, with similar Pharmaco-therapeuctic activity proposed that, if any drug in a group if not available can be substituted with newer drug and the inappropriate drug to the group should be rejected [3]. On observing the difficulties on procuring the original drug arised the concept of Pratinidhi, with a proper and precise list of substitute drugs probably for the first time in Bhavprakash. In present study the substitute drugs from Bhavapraksh are reviewed as it is considered as Bridge between medieval & modern period. Now a day's too much emphasis has been put on the potential for discovering new wonder drugs and too little on the problems involved in the use of traditional medicines. The concept of substitution in Pharmcognosy or herbal science mainly refers it as a part of adulteration which may be deliberate or accidental. Usually this practice includes substitution of original crude drug partially or fully with other substances which is either from or inferior in chemical properties and therapeutics [9]. Unlike above, in Ayurveda the concept of substitution differs in a way that the substitute drug possesses similar 'guna' i.e. the Rasapanchakas (Ayurveda Pharmacology) on the level of attributes with that of the original drug [1]. That means the substitutes seemed to be intentionally selected and utilize rationally to achieve the desired effect. Usage of Pratinidhi is alternate to rare/extinct/difficult to unobtainble original drug. It can overcome the depletion of rare drugs, thus lend a support in conservation and sustainability of medicinal plants and provide a quality herbal formulation with economic feasibility.

2. Abhav Pratinidhi Dravyas in Bhavprakash

The present conceptual work is taken from textual reference of Mishrak Prakran of Poorvankhanda and Nighantu part of Bhavprakash written by Bhavmishra (16th Century). Bhavmishra has complied the text following the traditional of Samhita and introduced many new drugs for the new diseases of that period. As Nighantus are mainly the glossary of medicinal plants they are always look upon for the study of Dravyas and correlated with Bhaishajya Kalpana for informations on properties, pharmacological activity & therapeutic uses, methods, time, of medicinal plant collection etc. The Abhava pratinidhi Dravya List includes 47 drugs of plant origin (Sthavar Dravya), 2 drugs of animal origin (Jangam Dravya), 7 drugs Minerals-Metals origin (Bhoumya Dravya) and 5 food materials (Ahariya Dravya) [8]. The Pratinidhi dravyas of Bhoumya dravyas are excluded.

Table 1: *Pratinidhi Dravyas for Sthavar Dravyas (Substitute Drugs of Plant Origin)*

S. N.	Drug	Botanical Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Chitraka	Plumbago zeylanica Linn	Plumbaginaceae	Root bark	Danti	Baliospermum montanum Muell	Euphorbiaceae	Roots
					Shikhari (Apamarga)	Achyranthes aspera Linn	Amaranthaceae	Kshara(alkalies)
2	Dhanvayas	Alhagi camerlorum Fisch	Fabaceae	Whole plant	Duralabha	Fagonia Arabica Linn	Zygophyllaceae	Whole plant
3	Tagar	Valeriana wallichii DC	Valerianaceae	Root	Kushtha	Saussurea lappa C.B. Clarke	Compositae	Root
4	Murva	Marsdenia tenacissima W	Asclepiadaceae	Root	Jhingini	Odina woodier Roxb.	Anacardiaceae	Stem Bark

5	Ahimsra [10]	Capparis sepiaria	Capparidaceae	Root	Mankanda	Alocasia indica (Roxb.) Schott	Araceae	Rhizome/Corm
6	Lakshmana	Solanum xanthocarpum Schrad. or Ipomoea sepiara Koenig ex Roxb	Solanaceae Convolvulaceae	Root, whole plant	Neelakanthashikha (Mayurshikha)	Adiantum caudatum Linn or Celiosia cristata Linn	Polypodiaceae Amaranthaceae	Whole plant
7	Bakula	Mimusops elengi Linn	Sapotaceae	Flower bark	Kalhaar [Rakta Kumud]	Nelumbo speciosum Willd Nelumbium rubra Roxb.	Nymphaceae	flower,
8	Utpal	Nymphea pubescens Willd Nymphea stellata Willd	Nymphaeceae	Flower, stamens	Pankaj	Nelumbo speciosum Willd Nelumbo nucifera Willd	Nymphaeceae	flower, stamens
9	Neel-utpala	Nymphea stellata Willd/ Nymphea Nouchali Burm.f.	Nymphaeceae	flower, stamens	Kumud	Nymphea alba/ N.rubra Roxb.ex Andrews /N.edulisDC	Nymphaeceae	flower, stamen
10	Jati pushpa (Javitri)	Myristica fragrans flout	Myristicaceae	Fruit aril	Lavanga	Syzygium aromaticum (Linn) Merr. & L.M.Perry	Myrtaceae	Flower bud
11	Arka Payas (dugdha)	Calotropis gigantean (Linn) R.Br. ex Ait	Asclepiadaceae	Latex	Arka patra swarasa	Calotropis gigantean (Linn) R.Br. ex Ait	Asclepiadaceae	Leave juice
12	Poushkar	Inula racemosa Hook.f. or Iris germanica Linn	Compositae or Iridaceae	Roots	Kustha	Saussurea lappa C.B. Clarke	Asteraceae	Root
13	Langali	Gloriosa superb Linn	Liliaceae	Bulb				
14	Sthouneya	Clerodendron infortunatum L.	Verbenaceae	Leaves Root				
15	Chavika &	Piper chaba Hunter	Piperaceae	Root	Pippali mula	Piper longum Linn	Piperperaceae	Root
16	Gaja-Pippali	Scindapsus officinalis Schott	Araceae	Fruits				
17	Somraji (Bakuchi)	Psoralea corylifolia Linn	Fabaceae	Seeds, Seed-oil	Prapunnadphala (Chakramarda)	Cassia tora	Caesalpiniaceae	Fruit
18	Daru-nisha (DaruHaridra	Berberis aristata DC	Berberidaceae	Stem-Bark	Nisha (Haridra)	Curcuma longa Linn	Zingeberceae	Rhizome
19	Rasanjana	Berberis aristata DC	Berberidaceae	Extract	Darvi	Berberis aristata DC	Berberidaceae	Decoction
20	Talispatra	Abbies webbiana Lindl	Pinaceae	Leaves	Swarnataali			
21	Bharangi	Clerodendrum serratum Spreng	Verbenaceae	Roots	Talispatra /	Abbies webbiana Lindl	Pinaceae	Leaves
					Kantakari mula	Solanum xanthocarpum Schrad & Wendl	Solanaceae	Roots

22	Madhuyasti	Glycrrhiza glabra Linn	Fabceae		Dhataki	Woodfordia floribunda Salisb	Lytharaceae	Flowers
23	Amlavetasa	Garcinia pedunculata Roxb OR Rheum emodi Wall	Guttiferae Polygonaceae	Fruit	Chukra	Rumex vesicarius Linn	Polygonaceae	Leaves Entireplant
24	Draksha	Vitis vinifera Linn	Vitaceae	Fruit	Kashmari (Gambhari)	Gmelina arborea Linn	Verbinaceae	Fruit
25	Kashmari phala (Gambhari)	Gmelina arborea Linn	Verbinaceae	Fruit	Jati pushpa	Myristica fragrans flout	Myristicaceae	Fruit –aril
26	Draksha & Gambhari	Same as above	Same as above	Same as above	Madhuca	Madhuca indica	Sapotaceae	Fruit
27	Kankola	Piper cubeba Linn.f.	Piperaceae	Fruit	Sugandhi Mustak	Cyperus rotundus Linn	Cyperaceae	Tubers
28	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract	Granthipara	Angelica glauca Edgw	Umbelliferae	
29	Kumkum	Crocus sativus Linn	Iridaceae	Stamens/Stigma	Kusumbha	Carthamus tinctorius Linn	Compositae	Fresh Flower
30	Shrikhanda (Sweta chandan)	Santalum album Linn	Santalaceae	Heartwood	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract
31	Sweta chandan &	Santalum album Linn	Santalaceae	Heartwood	Rakta chandan	Pterocarpus santalinus Linn.f.	Fabaceae	Heart wood
32	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract				
33	Rakta Chandan	Pterocarpus santalinus Linn.f.	Fabaceae	Heart wood	Usheera (Nava)	Vetiveria zizanoides (Linn.) Nash	Gramineae	Fresh Fibrous Root
34	Ativisha	Aconitum heterophyllum Wall	Ranunculaceae	Tuberous root	Musta	Cyperus rotundus Linn	Cyperaceae	Tuberous roots
35	Shiva (Haritaki)	Terminalia chebula Retz	Combrateceae	Fruit pulp	Shiva (Amalaki)	Emblica offcinalis Gaertn.	Euphorbiaceae	Fruit pulp
36	Nagpushpa (Nagkeshar)	Mesua ferrea Linn	Guttiferae	Flower stamens	Padma keshar	Nelumbium speciosum Willd	Nymphaeceae	Flower stamens
37	Meda [10, 12] &	Polygonatum cirrifoluim Linn	Liliaceae	Bulbs	Vari (Shatavari)	Asparagus racemosus Willd	Liliaceae	Fasciculate Roots
38	Mahameda [10, 12]	Polygonatum verticillate	Liliaceae	Bulbs				
39	Jeevak [10, 12] &	Microstylis wallichi Linn	Orchidaceae	Bulbs	Vidari kanda	Pueraria tuberose D C OR Ipomoea Digitata Linn	Fabaceae Convovulaceae	Bulb
40	Rishbhaka [10, 12]	Microstysis muscifera	Orchidaceae	Bulbs				
41	Kakoli [10] &	Fritillaria roylei	Liliaceae	Bulbs	Ashwagand -ha	Withania somnifera Dunal	Solanaceae	Roots
42	Ksheerakakoi [10, 12]	Liluim polyphyllum D.Don	Liliaceae	Bulbs				
43	Riddhi [10, 12] &	Habenaria edgeworthii	Orchidaceae	Bulbs	Varahi kanda	Dioscorea bulbifera Linn	Dioscoreaceae	Bulb
44	Vriddhi [10, 12]	Habenaria latilabris	Orchidaceae	Bulbs				
45	Varahi kanda [11,12] (Grushti)	Dioscorea bulbifera Linn	Dioscoreaceae	Bulb	Charmakar alu	Tacca aspera Roxb.	Taccaceae	Bulb
46	Bhallatak	Semecarpus	Anacardiaceae	Fruit	Rakta	Pterocarpus	Fabaceae	Heartwood

	asahatva	anacarduim Linn f			chandan	santalinus Linn.f.		
47	Bhallatak	Semecarpus anacarduim Linn f	Anacardiaceae	Fruit	Chitra	Plumbago zeylanica Linn	Plumbaginaceae	Root bark

Table 2: *Pratinidhi Dravya for Jangam Dravyas (Substitute Drugs of Animal Origin)*

S. N.	Drug	Botanical Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Kasturi	Moschus moshifera	Cervidae	Secretion from gland of male deer	Kankola	Piper cubeba Linn f. Piperaceae		
2	Nakha	Helix aspersa	Helicidae	Snail (animal product)	Lavanga pushpa	Syzygium aromaticum (Linn) Merr. & L.M. Perry	Myrtaceae	Flower-bud, oil

Table 3: *Pratinidhi Dravya for Ahariya Dravya (Substitute for Food Substances)*

S. N.	Drug	Latin Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Ikshu	Saccharum officinaria	Gramineae	Stem, roots	Nala	Phragmites Kirka Trin.ex.Steud or Lobelia nicotianaefolia	Graminae Lobeliaceae	Roots, stems
2	Madhu	Obtain from Honey Bees		Beehive extract	Jeerna guda	Obtained from Sac charum officinaria		Jaggery
3	Matsya khanda	Condensed extract of Saccharum officinaria		Solid extract from juice	Sita sharkara	Common sugar obtained from Saccharum officinaria	Gramineae	Particle sized common sugar crystals
4	Sita	Common sugar obtained from Sacc harum officinaria		Particle size d, common sugar, crystals	Khanda	Crude sugar obtained from Sacc harum officinaria		Crude bigger size sugar
5	Ksheera			Milk	Mudga rasa/	Phaseolus aureus	Fabaceae	Seeds /Grains
					Masurak rasa	Lens culinaris	Fabaceae	Seeds /Grains

As the main requirement for an appropriate Pratinidhi Dravya is to possess similar gunas to that of original drug, the Abhava Pratinidhi dravyas were compared on basis of their Rasapanchak i.e. Guna (properties), Rasa (taste), Vipaka (post digestion and metabolism effect), Veerya (potency) along with Karma (actions) and Roghanata (Indications). Even though the reason for the absence of drugs is not clearly mentioned, but non-availability of drugs seems to the major reason due to deficiency of plant subjected to specific regional distribution e.g. Sweta Chandan, Yastimadhu or expensive drugs like Kumkum or over exploited drug like Daruharidra or rare/extinct drug in case of Ashtavarga. It is Stated that Ashtavarga were rare even to the kings, hence substitutions is suggested which can be within reach of wide population from rich to the poor. It is not clear to how and why only a particular substitute is selected in spite of many other drugs with similar Gunas are available. However the criteria for substitution have to be appropriate through skilled discrimination of Vaidya (Ayurveda Physicians). The mentioned instances serves only as a guideline, author has encouraged inclusion of newer substitute with proper logic and reasoning to select a substitute and any drug not suitable therapeutically should be excluded. While preparing a formulation, substitution is only applicable for secondary ingredient and not for the main ingredient.

Table 4: *Rasapanchakas of Abhava and Pratinidhi of Sthavar Dravya & Summary of Similarities*

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Chitrak	Laghu Ruksha	Katu	Katu	Ushna	Vata-Kaphahar	Vanhi krita(Deepan), Pachan, Grahi	Grahani, Kushtha, Shotha, Arsha, Krimi
	Danti	Sara Tikshna	Katu	Katu	Ushna	Kaphahar	Deepan, Vidaha nashan	Arsha, Ashmari, Shula, Kandu Rakta dosha, Kushtha, Rakta-pitta, Shotha, Udar, Krimi
	Apamarga	Sara Tikshna Kshara	Tikta Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachana, Rochana, Medohar	Chhardi, Medo-roga, Hridrog, Adhman, Arsha, Kandu, Shula, Udara, Apachi
Similarities		-	Katu	Katu	Ushna	Kaphahar	Deepana, Pachana	Arsha, Kushtha, Shotha, Krimi,
2	Dhanvayas (Yavasa)	Sara Laghu	Madhura TiktaKashaya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar. Bhrantihar. Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
	Duralabha(Dhamas)	Sara Laghu	MadhurannTiktaKashaya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar. Bhrantihar. Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
Similarities		Sara Laghu	Madhura TiktaKashaya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar.Bhrantihar, Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
3	Tagara	SnigdhaLaghu	Madhura	Katu	Ushna	Tridoshahar Vatahar	Vishaghna, Shulahar	Visharoga, Apasmar, ShulaharAkshi vikar,
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
	Similarities	Laghu	Madhura	Katu	Ushna	Vatahar	-	-
4	Murva	Sara Guru	Madhura Tikta			Tridoshahar		Rakta-pitta, Pramehahar, Trishna, Kandu, Hridroga, KushthaJwar
	Jhingini	Snigdha	Madhura Kashaya Patu (lavana)	Katu	Ushna	Vatahar	Vrana-shodhini	Vrana, Atisaar, Hridroga
Similarities		-	Madhura	-	-	-	-	Hridroga
5	Ahimsra	Laghu Ruksha	Katu Tikta	Katu	Ushna	Kapha-Vata har	Shothahar, Ruchya, Deepana	Vrana, Yoni-Vikara, Shotha
	Mankanda	Laghu Snigdha	Madhura	Madhura	Sheeta	Vata-Pittahar	Shothahar	Shotha, Rakta-pitta
Similarities		Laghu	-	-	-	-	Shothahar	Shotha
6	Lakshmana	Laghu Ruksha	Katu Tikta katu	Katu	Ushna	Vata-Kaphahar pittavardhak	Shukra-rechan, Bhedi, Kanduhar Specially Putrada, Vashya	Kandu, Kasa, Medaroga, Krimi, Jwar
	Neelkanthashikha	Laghu Ruksha	Tikta	Katu	Sheeta	Pitta-Kapha har	Grahi	Atisaar
Similarities		Laghu Ruksha	Tikta	Katu	-	Kaphahar	-	-
7	Bakula	Guru	Katu Tikta Kashaya	Katu	Anushna	Pitta-kaphahar	Vishahar, Raktadoshahar	Visha, Yonishula, Trishna, Daha, shotha, kushtha, Raktavikara

	Kalhar	Guru Ruksha	Kashaya	Katu	Sheeta	Kapha-pittahar	Grahi, Vishtambhi	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
Similarities		Guru	Kashaya	Katu	-	Kapha-pittahar	-	Trishna, Visha, Raktavikar, Daha
8	Utpal	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Pankaj	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
Similarities		Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
9	Neel-utpal	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Kumud	Guru Ruksha	Kashaya	Katu	Sheeta	Kapha-pittahar	Grahi, Vishtambhi	Trishna, Daha, Visha, Rakta vikara, Visphota, Visarpa
Similarities		Guru	-	Katu	Sheeta	Kapha-pittahar	-	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
10	Jatipushpa	Laghu	madhura	Katu	Ushna	Kaphahar	Ruchikar, Varnakar	Kasa, Vami, Swasa, Trishna, Krimi, Visha
	Lavanga	Laghu	Katu Tikta	Katu	Sheeta	Kapha-pitta har	Deepana, Pachan, Ruchikar	Trishna, Chhardi, Adhman, Shula, Kasa, Swasa, Hikka, Kshaya
Similarities		Laghu	-	Katu	-	Kaphahar	Ruchikar	Kasa, Swasa, Trishna
11	Arka-payasa	Laghu	Tikta Salavan	Katu	Ushna	Kaphahar	Shrestha Virechan	Kushtha, Gulma, Udara
	Arka patra swaras	Laghu	Sa-Tikta Madhura	Katu	Ushna	Kaphahar	Sangrahi	Kushtha, Gulma, Krimi, Arsha, Visha, Shotha
Similarities		Laghu	Tikta	Katu	Ushna	Kaphahar	-	Kustha ,Gulma
12	Poushkar	Laghu	Katu Tikta	Katu	Ushna	Vata-kaphahar	Shulahara Shothhar Ruchya	Jwara, shotha, Aruchi, Swasa, especially in Parshwa-shula.
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
Similarities		Laghu	Katu Tikta	Katu	Ushna	Vata-Kaphahar	-	-
13	Langali	Sara TikshnaK shara Laghu	Tikta Katu Kashaya	Katu	Ushna	Kaphahar Pittakar	Garbha-patini	Kushtha, Shotha, Arsha, Vrana, Shula, Krimi
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
Similarities		Laghu	Katu Tikta	Katu	Ushna	Kaphahar	-	Kushtha
14	Sthouneya	Snigdha	Katu Madhura Tikta	Katu	Ushna	Tridoshahar	Medhya, Shukrala, Ruchya, Rakshoghna	Jwara, Jantu, Kushtha, Trishna, Daha, Daurgandha, Tilkalak, Raktavikar a,
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
Similarities		-	Katu Madhura Tikta	Katu	Ushna	-	Shukrala	Kushtha
15	Chavika	Laghu Ruksha	Katu	Katu	Ushna	Vata-kaphahar	Agnivardhak	Specially in Guda-vikara

	Gaja-Pippali	Laghu Ruksha	Katu	Katu	Ushna	Vata-kaphahar		Atisaar, Swasa, Kantharoga, Krimi
	PippaliMula	Laghu Ruksha	Katu	Katu	Ushna	Kapha- Vatahar	Deepan, Pachan, Bhedana	Udara, Anaha, Pleeha, Krimi, Gulma, Swasa, Kshaya
Similarities		Laghu Ruksha	Katu	Katu	Ushna	Kapha- Vatahar	Deepana, Pachan	Krimi, Swasa
16	Somraji (Bakuchi)	RukshaSara	Madhura Tikta	Katu	Ushna	Vatahar Pittala	Keshya, Twachya, Pachan	Krimi, Swasa, Kasa, Shotha, Amadosha, Pandu
	Prapunnad	Laghu Ruksha	Madhura Katu	Katu	Ushna	Vatahar	Kandughna	Kushtha, Kandu, Dadru, Gulma, Kasa, Krimi, Swasa
Similarities		Laghu	Madhura	Katu	Ushna	Vatahar	Kandughna. Tachya	Kushtha, Kandu, Dadru
17	Daru-nisha (Daru-Haridra)	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Twakdoshahar,	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana Visha, specillay in Netra-roga and Karna-roga
	Nisha	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar	Varnya	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana
Similarities		Ruksha	Katu Tikta	Katu	Ushna	Kaphahar	Twakdoshahara	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana, Visha
18	Rasanjana	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Rasayan Chhedan	Netraroga, Visha, Vrana
	Darvi-kwath	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Twakdoshahar,	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana Visha, specillay in Netra-roga and Karna-roga
Similarities		Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	-	Netraroga, Vrana Visha
19	Talispatra	Laghu Tikshna	Katu	Katu	Ushna	Kapha-Vatahar	Deepan, Pachan, Ruchya	Aruchi, Gulma, Agnimandya Kshaya, Amadosha
	Swarnataali							
	Similarities							
20	Bharangi	Ruksha	Katu Tikta Kashaya	Katu	Ushna	Kapha-Vatahar	Ruchya, Deepana, Pachan	Gulma, Rakta-dosha, Shotha, Kasa, Swasa, Pinas, Jwar
	Talispatra	Laghu Tikshna	Katu	Katu	Ushna	Kapha-Vatahar	Ruchya, Deepana, Pachan	Aruchi, Gulma, Agnimandya Kshaya, Amadosha
	Kantakari Mula	Sara Laghu Ruksha	Tikta Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachan	Kasa, Swsa, Jwara, Pinas, Krimi, Hridroga
Similarities		Laghu	Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachan	Kasa, Swasa, Kshaya, Pinas
21	Madhuyasti	Laghu Susnigdha	Madhura Kashya	Madhura	Sheeta	Pitta –Vatahar Raktadoshahar	Chakshushya, Balya, Shukrala, Keshya, Swarya,	Vranshotha, Visha, Chhardi, Trishna, Glani, Kshaya
	Dhataki	Laghu Mrudu	Kashaya Katu	Katu	Sheeta	Pitta-Vata har	Raktadoshahar	Trishna, Atisaar, Visarpa, Raktadosha, Visha, Krimi
Similarities		Laghu	Kashaya	-	Sheeta	Pitta-Vata har	-	Trishna, Visha
22	*Amlavetasa	Laghu Ruksha	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Bhedan	Hridroga, Gulma, Pleeha, Vinmutradosha, Udavarta, Hikka, Anaha, Aruchi, Swasa, Kasa, Jeerna Vami
	Chukra	Laghu	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Pachan Param Ruchya	Shula, Gulma, Vibandha, Trishna, Hritpeeda, Agnimandya Asyavairasya,

								Vami
Similarities		Laghu	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Rochaka	Gulma, Vibandha, Trishna, Hritpeeda, Agnimandya Aruchi, Vami
23	Draksha	Sara Guru	Madhura Kashaya	Madhura	Sheeta	Vata-Pittahar Kaphakar	Chakshushya, Brimhana, Swarya, Srishtavinmutra	Trishna, Jwara, swasa, Vatarakta, Kamala, Mutrakrichha, Raktapitta, Daha, Shosha, Madatya
	Kashmari phala (Gambhari	Snigdha Guru	Madhura Kashaya Amla	Madhura	Sheeta	Vata-Pittahar	Keshya, Brimhana, Vrishya, Rasayan	Raktakshaya, Mutravibandha, Daha, Vatarakta, Kshata, Kshaya, Raktapitta
Similarities		Guru	Madhura Kashaya	Madhura	Sheeta	Vata-Pittahar	Brimhana,	Raktakshaya, Mutravibandha, Daha, Vatarakta, Kshaya, Raktapitta
24	Draksha & Kashmari Phala	Same as abov e	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above
	Madhuka Pushpa	Guru Mridu	Madhura Kashaya	Katu	Sheeta	Vata-Pittahar	Shukral	Hridroga, Trishna, Daha, Raktavikara, Swasa, Kshat, Kshaya
Similarities		Guru	Madhura Kashaya	-	Sheeta	Vata-Pittahar	Vrishya	Trishna, Daha, Raktavikara, Swasa.Kshaya
25	Kankola	Laghu TikshnaSugandhi	Katu Tikta	Katu	Ushna	Kapha Vatahar	Ruchya, Hridya	Mukha-dourgandhya, Hridroga, Vata-vyadhi, Andhya
	Jatipushpa	Laghu Sugandhi	Madhura	Katu	Ushna	Kaphahar	Ruchikar, Varnakar	Kasa, Vami, Swasa, Trishna, Krimi, Visha
Similarities		Laghu Sugandhi	-	Katu	Ushna	Kaphahar	Ruchya	Mukhadourganhya
26	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoroga, Asyavairashya, Dourgandhya
	Sugandhi Mustak	Laghu , Ruksha Sugandhi	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pittahar Raktadosha	Deepana, Pachana, Grahi	Trishna, Raktavikara, Jwara, Aruchi, Jantu
Similarities		Laghu Sugandhi	Tikta	Katu	Sheeta	Kapha-Pitta har	-	Trishna, Aruchi,
27	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoraga, Asyavairashya, Dourgandhya
	Granthiparna	Laghu TikshnaSugandhi	Madhura Tikta	Katu	Sheeta	Kapha-Vatahar	Hridya, Rakshoghna,	Kushtha, Kandu, Sweda, Medoroga, RaktavikaraJwara, Visha, Vrana
Similarities		Laghu Sugandhi	Madhura Tikta	Katu	Sheeta	Kapha-Vatahar	Vishahar	Daha, Sweda, Visha
28	Kumkum	Snigdha Ranjak (coloring)	Katu Tikta	Katu	Ushna	Tridoshahar	Varnya,Vamihar	Shiroroga, Vami, Vran, Jantu, Vyangadosha
	Kusumbha	Ranjak (coloring)	-	Katu	Sheeta	Kaphahar Vatala	-	Mutrakrichha, Raktapitta
Similarities		Ranjak	Tikta	Katu	-	-	-	-
29	Shrikhanda (Sweta chandan)	RukshaLaghu Surabhi	Tikta	Katu	Sheeta	Kapha-Pitta har	Alhadana, Shramahar	Shrama, Shosha, Visha, Trishna, Raktapitta, Daha, Rakta-dosha
	Raktachandan	Guru Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
Similarities		Sheeta	Tikta	Katu	Sheeta	Kapha-Pitta har	-	Visha, Vrana, Rakta-pitta, Daha

30	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoraga, Asyavairashya, Dourgandhya
	Raktachandan	Guru Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
Similarities		Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Vrishya	Daha, Visha,
31	Rakta Chandan	Guru Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana,Visha
	Usheera	Laghu	Tikta	Katu	Sheeta	Kapha-Pitta har	Stambhana	Jwara, Vanti, Mada, Trishna, Raktadosha, Visha, Visarpa, Mutrakrichha, Vrana
Similarities		-	Tikta	Katu	Sheeta	Kapha-Pitta har	Stambhana	Vrana, Visha, Chhardi, Raktadosha
32	Ativisha	Laghu Ruksha	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pitta har	Deepana, Pachan,	Atisaar, Amadosha, Visha, Kasa, Vaman, Krimi
	Musta	Laghu ,Ruksha Sugandhi	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pittahar Raktadosha	Deepana, Pachana, Grahi	Trishna, Raktavikara, Jwara, Aruchi, Jantu
Similarities		Laghu Ruksha	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pitta har	Deepana, Pachan,	Atisaar, Amadosha, Krimi
33	Shiva (Haritaki)	Laghu Ruksha	Kashaya Madhura Tikta Katu Amla	Madhura	Ushna	Tridoshahar	Medhya, Deepan, Anuloman, BrimhanAyushya, Chakshushya	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, Trishna, Hridroga, Kamala, Shula, Pleeha, Kandu, Yakrit, Ashmari, Mutrakrichha, Mutraghata Grahani, Vaswarya
	Shiva (Amalaki)	Snigdha Sara	Amla Kashaya Madhura Tikta Katu	Madhura	Sheeta	Tridoshahar	Medhya, Deepan, Anuloman, BrimhanAyushya, Chakshushya, especially Vrishya Rasayan	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, Trishna, Hridroga, Kamala, Shula, Pleeha, Kandu, Yakrit, Ashmari, Mutrakrichha, Mutraghata Grahani, Vaswarya Rakta-pitta, Prameha
Similarities		-	Panchras a	Madhura	-	Tridoshahar	Medhya, Deepan, Anuloman, Brimhan Ayushya, Chakshushya, especially Vrishya Rasayan	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, TrishnaHridroga, Kamala, Shula, Pleeha, Kandu, Yakrit, Ashmari, Mutrakrichha, Prameha Mutraghata, Grahani, VaswaryaRakta-pitta,
34	Nagpushpa (Nagkeshar)	Ruksha	Kashaya	Katu	Ushna	Kapha-Pittahar	Amapachan	Jwara, Kandu, Trishna, Sweda, Chhardi, Hrillas, Dourgandhya, kushtha, Visarpa, Visha
	Padma keshar	Ruksha	Kashaya	Katu	Sheeta	Kapha -Pittahar	Vrishya	Trishna, Daha, Rakta-Arsha, Visha, Shotha
Similarities		Ruksha	Kashaya	Katu	Sheeta	Kapha –Pittahar	-	Trishna, Rakta-Arsha, Visha
35	Meda &	Guru	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Stanyajanan, Brimhana Raktastambhak	Rakta-pitta, Jwara

36	Mahameda	Guru	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Stanyajanan, Brimhana Raktastambhak	Rakta-pitta, Jwara
	Shatavari	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Medhya, Rasayan, Pushti, Netrya, BalyaShukral, Stanyajanan,	Gulma, Atisaar, Shotha
Similarities		Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Rasayan, Shukral, Stanyajanan	-
37	Jeevak &	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara, Karshya, Kshaya
38	Rishbhaka	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara, Karshya, Kshaya
	Vidarikanda	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral Stanyajanan, Swarya, Mutral, Balya, Jeevan, Varnya, Rasayan	Daha, Rakta-pitta
	Similarities	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara
39	Kakoli &	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta, Sho sha, Jwara
40	Ksheerakakoli	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta, Sho sha, Jwara
	Ashwaganadha	Guru snigdha	Madhura Tikta Kashaya	Madhura	Ushna	Vata-Kaphahar	Ati- Shukral, Balya, Rasayana	Shotha, Shwitra, Kshaya
Similarities		Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta,
41	Riddhi &	Guru snigdha	Madhura	Madhura	Sheeta	Tridoshahar Piitahar	Shukral, Pranakari, Aishwarya, Garbha-prada, Vrishya	Murchha, Rakta-pitta, Raktadosha, Kshat, Kshaya
42	Vriddhi	Guru snigdha	Madhura	Madhura	Sheeta	Tridoshahar Piitahar	Shukral, Pranakari, Aishwarya, Garbha-prada, Vrishya	Murchha, Rakta-pitta, Raktadosha, Kshat, Kshaya
	Varahi kanda (Grushti)	Guru	Madhura Tikta	Katu	Ushna	Kapha-Vatahar Pittakar	Shukral, Swarya, Varnya, Agnibala, Rasayan	Kushtha, Meha, Krimi
Similarities		Guru	Madhura	-	-	Pittahar	Shukral, Rasayan	Raktadosha, Kushtha
43	Varahi kanda (Grushti)	Guru	Madhura Tikta	Katu	Ushna	Kapha-Vatahar Pittakar	Shukral, Swarya, Varnya, Agnibala, Rasayan	Kushtha, Meha, Krimi
	Charmakaalu	Guru	Madhura Tikta	Katu	Sheeta	Kaphakar Vatakar	Balya, Vrishya,	Rakta-pitta, Kushtha
Similarities		Guru	Madhura Tikta	Katu	Sheeta	Kaphakar	Balya, Rasayan	Kushtha
44	Bhallatak asahatva	LaghuSnigdha Tikshna	Kashaya Madhura	Madhura	Ushna	Vata-Kaphahar	Chhedan, Bhedan, Medhya, Agnimandya, Shophakar	Udara, Anaha, Arsha, Grahani, Gulma, Jwara, Shwitra, Vami, Shotha
	Raktachandan	Guru Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
45	Bhallatak	Laghu Snigdha Tikshna	Kashaya Madhura Katu	Madhura	Ushna	Vata-Kaphahar	Chhedan, Bhedan, Medhya, Agnimandya, Shophakar	Udara, Anaha, Arsha, Grahani, Gulma, Jwara, Shwitra, Vami, Shotha
	Chitrak	Laghu Ruksha	Katu	Katu	Ushna	Vata-Kaphahar	Vanhi krita(Deepan), Pachan, Grahi	Grahani, Kushtha, Shotha, Arsha, Krimi
Similarities		Laghu	Katu	-	Ushna	Vata-Kaphahar	Deepana, Pachan	Grahani, Kushtha, Arsha, Shotha,

Table 5: *Rasapanchakas of Abhava and Pratinidhi of Jangam Dravya & Summary of Similarities*

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Kasturi	GuruKshara Tikshna, Sugandha	Katu Tikta	Katu	Ushna	Kapha-Vatahar	Shukral	Visha, Chhardi, Sheeta Dourgandhya, Shosha
	Kankola	Laghu,Tikshna Sugandha	Katu Tikta	Katu	Ushna	Kapha-Vatahar	Ruchikara Hridya	Mukha Dourgandhi, Hrid-roga, Andhya
Similarities		Tikshna,Sugandha	Katu, Tikta	Katu	Ushna	Kapha-Vatahar	-	Dourgandhya
2	Nakha	Laghu Sugandha	Katu	Katu	Ushna	Kapha-Vatahar	Shukrajana n ,Varnya	Graha, Raktadosha, Jwara, Kushtha, Vrana, Visha, Alakshmi, MukhaDourgandhya
	Lavanga -Pushpa	Laghu Sugandha	Katu Tikta	Katu	Sheeta	Kapha-pitta har	Deepana, Pachan, Ruchikar	Trishna, Chhardi, Adhman, Shula, Kasa, Swasa, Hikka, Kshaya
Similarities		Laghu	Katu	Katu	Ushna	Kapha-Vatahar	-	-

Table 6: *Rasapanchakas of Abhava and Pratinidhi Ahariya Dravya & Summary of Similarities*

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Ikshu	Snigdha Guru	Madhura	Madhura	Sheeta	Kaphakar	Balya, Vrishya, Mutrala	Rakta-pittaghna
	Nala	Guru	Madhura Tikta Kashaya	Madhura	Ushna	Pittahar Kaphakar Raktadoshahar	Mutrala	Raktavikara, Hridroga, Bastiroga, Yonivikara, Daha, Visarpa
Similarities		Guru	Madhura	Madhura	-	Kaphakar	Mutrala	Basti-Vikara
2	Madhu	Sukshma Guru VishadaY ogavahi	Madhura Kashaya	Katu	Sheeta	Pitta–Kaphahar Alpa Vatala	Grahi,Vilekhana, Chakshushya, Deepan,Swarya, Vranashodhak, Ropana,Hridya, Varnya,Prasadak, Medhya, Vrishya	Kushtha, Arsha, Kasa, Raktavikara, Meha, Klama,Krimi, Medoroga, Trishna, Kshata, kshaya, Swasa, Hikka, Atisaar Vidgraha,Daha
	Jeerna-guda	Laghu Anaabhis hyandi	Madhura	Madhura	Ushna	Vata-Pittaghna	Agnivardhak, Vrishya,Pushti, Raktaprasadak Pathya	Kshaya, Klama, Trishna
Similarities		-	Madhura	-	-	Pittahar	Vrishya, Pushti, Raktaprasadak, Deepan	Kshaya, Klama
3	Matsya –khanda	Laghu	Madhurta	Madhura	Sheeta	Pitta-Vatahar	Bhedana, Balya, Vrishya, Brimhana, Raktadoshahar	Raktadosha
	Sita-sharkara	Su-sweta Atisheeta	Su-Madhura	Madhura	Ati-Sheeta	Vata-Pittahar	Ruchya, Raktadosha, Daha, Shukral	Daha, Murchha, Jwara, Raktadosha
Similarities		-	Madhura	Madhura	sheeta	Vata-Pittahar	Shukral, Raktadoshahar	Raktadosha
4	Sita	Laghu Sara	Madhura	Madhura	Sheeta	Vata-Pittahara	Raktapittahar	Raktapittahar
	Khanda	Guru Ruksha	Madhura Kashaya	Madhura	Sheeta	Kapha-Pittahar	Raktavikarahar	Vaman, Atisaar, Daha, Chhardi, Raktadosha,
Similarities		-	Madhura	Madhura	Sheeta	Pittahar	Raktavikara har	Raktadosha
5	Ksheera	Snigdha Guru Sarak	Madhura	Madhura	Sheeta	Kapha-Pitta har	Quick Shukral, Satmya, Jeevan, Brimhana, Balya, Medhya, Vajeekaran Param, Vayasthapan,	-

							Ayushya, Rasayan, Sandhikarai	
	Mudga rasa	Laghu-Ruksha	Madhura	Madhura	Sheeta	Kapha-Pittahar Alpa vatal	Grahi, Netrya, Jwarahara, Pathyakar, Hitakar	Jwara, Netraroga
	Masurak rasa	Laghu-Ruksha	Madhura	Madhura	Sheeta	Kapha-Pittahar Vatakar	Sangrahi	Raktavikara, Jwara
Similarities		-	Madhura	Madhura	Sheeta	Kapha-Pittahar	Pathya, Hitkar	-

3. Discussion

The present review finds that author has concentrated more on herbal origin drugs rather than other types of Dravyas (Table 1). Among all categories of Pratinidhi Dravayas, 29 drugs showed similar medicinal part used and 23 drugs with different medicinal part used (Table 1, 2, 3). In most of examples Pratinidhi dravyas showed similarities in rasapanchak, actions and indications with differences on one or two level of attributes (Table 4, 5, 6). Almost all the Abhava Pratinidhi dravyas are dissimilar taxonomically as they belong to different families or species (Table 1). Interspecies and Intraspecies substitution is suggested e.g. Pushkar mula is said to be Kushtha-bheda (variety) and Neelutpal is one of the species of same family as that of Kumud (Table 1). In some instances as in example of Duralabha, source wise it is entirely different plant from Yavasa but used as its substitute due to similarities in guna (Table 1, 4). Same has been mentioned for examples of Sweta-Chandan & Rakta-Chandan, Varahi & Charmakalu (Table 1, 4). One single substitute is suggested for 4 Abhava Dravya e.g. Kushtha is substituted for Tagar, Poushkar, Langali and Sthouneya, which seems to conserve four valuble plants (Table 1). The Abhava (absence) in one instance is not regarding the non-avaliability of drug but drug intolerance and thus the given substuite is totally opposite in Gunas e.g. Bhallatak is extremely Ushna and exhibits side effects of blisters on skin and can create intolerance, so it is substituted with anti-dote like Rakta-Chanadan (Table 1, 4). This gives an understanding that if any drug proven to be unsuitable should be discarded. Many expensive or rare drugs like Kumkum, Kasturi, Chandan, Yastimadhu, Ashtavarga plants etc. are substituted with low cost, easily available & abdundance drugs throughout the country. All the Jangam Dravayas (animal origin) e.g. Kasturi, Nakhi are substituted with Sthavar Dravyas (Plant origin) (Table 2, 5) as there could be limitation in availability of animal products and enables to avoid over-explotation of that animal in a way leads to conservation of flauna. The substitute Kankol is not similar to Kasturi activity wise but possesses similar rasa-panchak and share common therapeuctic use as Dourgandha nashan (Table 5). Sustitutes used not only seems to be always raw but also processed e.g. Rasanjan is an extract where the decoction of the Bark of Daru haridra is cooked with goat's milk to form a condensed lump. Such processed Drug is substituted with quicker version with the decoction of the same plant (Table 1, 4).In some instances vice-versa is given e.g. Madhu is raw drug which is substituted with Old Jaggery. Jaggery is processed juice prepared by heating & obtained from Sugarcane (Table 3, 6). Ahariya dravyas (food substances) were substituted only with Ahariya Dravyas and not Medicinal plants (Table 3). Shiva is a common synonym used for both Haritaki and Amalaki which means that drugs with similar property and activity share tha same synonyms (Table 1, 4). Particular stage of medicinal part used is been mentioned to serve as substitute e.g. Fresh roots of Usheer is substituted for Rakta-Chandan as it develops a good cooling property to be equivalent with the original drug (Table 1, 4). The most important criteria of Pratinidhi seem to be similarity in Indications, Pharmaco-Therapeutic uses, as given in example of Ahimsra and Mankanda (Table 1, 4). They both are totally dissimilar on guna, rasa, veerya, ipaka level but possess similar activity of 'Shothahar' [8] (Table 4). As the criteria for Selection of Pratinidhi has been clearly stated there seems to be no binding to what one has to choose as a substitute. To select a proper substitute one has to not only seek overall Guna (Rasapanchak) similarities, but also test its therapeutic efficacy clinically. To assess drug on physic-chemical and clinical similarities requires further research.

4. Conclusion

Pratinidhi Dravyas are stand-by to Abhava dravyas. Ayurveda suggests use of appropriate locally available plant which are easy to obtain and in abundance. There is always a scope to add newers substitute for Abhav dravyas and discard the clinically unproven unsuitable drug in today's era. India is rich in 45000 diverse species of this only 7000-7500 plants are utilize in traditional medicine. The rational substitution in Ayurveda is based on similarities in Guna of both the drugs and not on inferior qualities. It should be properly validated in contemporary context using both Ayurvedic principles and Modern Scientific tools. India is significant player in global herbal market. Substitution in a rational way could be of help to yield quality herbal products. Pratinidhi serves to overcome problem of non-availability of expensive, rare or difficult to obtain drugs of plants as well as animal origin and thus solve the problem of scarcity of drugs and indirectly help in conservation and sustainability of medicinal plants.

References

[1] Bhav Mishra,2002: Bhavprakash, First part, Vidyotini Hindi Commentary Notes Appendix by Shri Brahma Shankara Mishra and Shri Ruplal Vaishya, Poorvakhanda Mishrak Prakaran, 6/138-168 Choukhamba Sanskrit Samsthan, Varanasi, 959.

[2] Vaman Shivram Apte, 2006: *The Practical Sanskrit English Dictionary*. Motilal Banarsidas, Varanasi, 1160.

[3] Vagbhat, 2007: Ashtang Hridayam Vol. 1 translated by Prof. K.R. Shri Kanth Murthy, Sutrasthan Shodhanadigana Samgraha 15/46 Chowkhamba Krishnadas Academy, Varanasi, 523.

[4] D. Shanthakumar Lucas, 2006: *An Introduction to Nighantu of Ayurveda*. Choukhamba Sanskrit Bhawan, Varanasi. 258.

[5] P.V. Sharma. 2007: *DravyagunaVijnana.* Vol. 1, Chaukhamba Bharati Academy, Varanasi, 512.

[6] Agnivesha, 2007: Charak Samhita Vol. 1, Vaidyamanorama Hindi Commentary by Acharya Vidyadhar Shukla and Prof Ravi Dutt Tripathi, Sutrasthan Sodhanadigana Samgraha 15/46, Chaukhamba Sanskrit Pratishthan, Delhi, 916.

[7] Agnivesha, 2009: Charak Samhita with Ayurveda-Dipika Commentary by Chakrapani Datta, Sutrasthan. Sodhanadigana Samgraha 15/46 Chaukhamba Surbharti Prakashan, Varanasi, 738.

[8] Bhavmishra, 2010: Bhavprakash Nighantu, Commentary by K.C. Chunekar and Edited by G.S. Pandey, Choukhambha Bharati Academy, Varanasi, 960.

[9] P.K. Mukherjee, 2002: *Quality Control of Herbal Drug an Approach to Evaluation of Botanicals*. Business Horizon, 800.

[10] G. Pandey, 2005: *Dravyaguna Vijnana.* Vol. 1, Choukhambha Bharati Academy, 943.

[11] P.V. Sharma, 2005: *DravyagunaVijnana.* Vol. 1, Chaukhamba Bharati Academy, 344.

[12] Balkrishna, A. Srivastava, R.K. Mishra, and S.P. Patel. *Astavarga Plants-Threatened Medicinal Herbs of the North-West Himalaya.* International Journal of Medicinal and Aromatic Plant. 2012. 2 (4) 661-676.