



## INTERVENTION THROUGH AYURVEDA FOR PAIN RELIEF TO PATIENTS OF HANDIGODU SYNDROME

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### ABSTRACT

A project for pain management of the people affected by Handigodu Musculo Skeletal Syndrome in Sagara Taluk of Shimoga District was implemented by Karuna Trust and Handigodu Welfare Society during 2013-14 to 2016-17. This was funded by Nuclear Power Corporation of India (Atomic Power Station, Kaiga). It envisaged intervention, through a mobile clinic, primarily for pain management by treating them in their own homes according to the protocols of Ayurveda. The final evaluation of the project showed that 76% of the 193 beneficiaries were satisfied and showed substantial improvement in terms of reduction of pain and increase in general well-being.

**Keywords:** Pain, Pain Management, Handigodu Musculo Skeletal Syndrome, Protocol of treatment, Assessment of pain, Pain relief.

### INTRODUCTION

Handigodu Musculo Skeletal Syndrome (Handigodu Syndrome) can be considered as *asadhyaroga* (incurable disease). In addition, it is a rare disease. There-

fore, it has not been studied beyond the first level of field survey and study conducted under the supervision of Late Dr. S. S Agarwal of Indian Council of

Medical Research (ICMR). Subsequent initiatives did not fructify although a second attempt was made by ICMR. Generally, considered as a genetic disorder, it severely affected the rural people of Shivamoga and Chikmagalur districts. Over the years, it is estimated that about thousand people affected by the disease have expired, although the immediate cause of their death could be due to other reasons. Against the background of prevalence of more than 1000 patients distressed by continuing severe pain, it was decided to launch a field project for pain management, essentially to provide pain relief to the victims. Since the primary purpose was palliative treatment, medical research was not a part of the project. However, the project was implemented under the guidance of an advisory committee of experts in *Ayurveda* and modern medicine. But, the intervention for pain relief was done strictly according to the requirement of *Ayurveda* as well as modern medicine. The same advisory committee also functioned as Ethics Committee for the project. At the end of four years, evaluation was done by an interdisciplinary committee, after obtaining feedback from all the patients. The patients of Handigodu Syndrome were being given pain killer tablets (Diclofenac with Pantaprazole etc). Though it gave some relief from pain, it was not considered satisfactory by the people. It also had side effects like water accumulation in the body and kidney problems. Against this background of experience of the people and based on the advice of the advisory committee of *Ayurveda* consultants and other experts, a protocol of treatment was worked out and implemented. In order to appreciate the understanding of the diagnosis and the intervention, we shall give an analysis of pain under *Ayurveda* as well as modern medicine.

### Materials and methods

#### Pain

*Sushruta Samhita* makes a specific reference to pain under chapter 22. A tabulation of types of pain described in this *Samhita* is given at Annex I. While dealing with *Vrana* (ulcers), pain caused by them are classified into those caused by *Vata*, *Pitta*, and *Shleshma*. Under *Vata*, 24 types of pain, under *Pitta* 7 types and under *Shleshma* 7 types are listed.

Pain and sickness are so related that in Tamil, the patient is called *Noyali* (Person with pain/sickness). The word used in *Sanskrit* is *Vedana*. Since pain is a subjective experience of the affected person, types of pain are described in terms of the manner in which it is felt by the person. While dealing with *Sandhipida*, types of pain are described as follows -*Pida* (continuous pain), *Ruk* (shooting pain), *Vedana* (mild pain), *Spho-tana* (cracking pain) and *Shula* (rheumatic pain). When a doctor enquires to find out from the patient about the type and severity of pain, these general descriptions are more useful than the broad category of acute and chronic pain used in the practice of modern medicine. In the practice of *Ayurveda* the above mentioned types of pain are helpful to identify the cause and thereby the possible line of treatment – *Shamana* (pacification to tolerable level) and *Sho-dhana* (complete relief or removal). For example, recurring and severe pain like pricking sensation in the sole, particularly among women is indicative of the beginning of *Sandhivata* (*Osteo-arthritis*). Severe pain in the elbow is an indication of spondylosis in the neck. While pain makes the patient to seek medical intervention and health restoration, it also helps the *vaidya* to diagnose the possible cause, nature and extent of the problem. Pain can also be described as internal and external, depending upon the origin or cause. Any wound, injury or damage on the outer side of the body may be called external. When the pain is due to internal origin or cause like in stomach-ache etc it may be called internal. Labour pain, prior to delivery and pain in menstruation are of a special nature. The sensation of the pain-internal as well as external, will be the same as conveyed by the neurological system to the mind. If the conveyance of pain from its location to the mind is prevented, pain may not be felt or perceived in the mind. Preventing such conveyance of pain is done by anaesthetic intervention. In the early stages of development of science, pain was reduced or managed by the use of opium (*Papaver somniferum*) and such other anaesthetic agents which reduced the ability of the mind to perceive pain. Numbing the location from which tooth has to be removed by the dental surgeon, numbing part or whole of the body

(including making the person unconscious) is done in medical practice through anaesthesia. While treating persons injured during war and during surgery, alcohol and opium were reportedly used to reduce sensation and able-bodied persons held down the patient to facilitate surgical treatment. Administration of analgesics to make the patient unconscious and to revive is a major development in medical science the perception of pain happens in the mind with the immediate body reflex in emergent conditions. *Bhela Samhita* is the first text in *Ayurveda* to locate the mind in the forehead (*Mastishka*). In chapter 12, the *sthana* of *manas* is described as follows:

“*Shiras talvaantaragatamsarvendriya param manah | Tatrasthamtaddhivinischiyamindriyanamrasadikam | Samipasthanvijanatitribhavanschaniyacchati*”

(Mind, which is the highest of all the sense organs is located between the crown of the head and the palate. From there itself the mind knows or feels all the matters like taste and sense). This is a major contribution of *Ayurveda* in the ancient period itself. The identification of the neurological centre in the forehead was scientifically proved only in the twentieth century by the biologists. Most of the literature of *Ayurveda* treats pain as a part of the disease treatment as a common phenomenon of many diseases; it is not treated as a separate phenomenon. However, identification of pain and the agents of pain relief have been listed in *Ash-tanga Sangraha* in chapter 15- *MahakashayaSan-graha Adhyaya* shloka 43 lists *VedanaSthapanaGana* (Pain relief/ analgesic group of *vanaspathis*):

1. *Shaila - Shorearobusta* Goertn
2. *Elavaluka -Prunus cerasus* Linn
3. *Katphala (Bayberry) -Myrica esculenta*
4. *Mocarasa - Salmaliamalabarica*
5. *Ashoka -Saracaasoka* Roxb de Wilde
6. *Padmaka- Prunus cerasoides* D Don
7. *Sherisha-Albezialebeck*
8. *Tunga - Lagenariasiceraria* Mol Standl
9. *Kadamba - Anthocephaluscadamba* Miq
10. *Vidula- Salixcapria* Linn

### Symptoms of Handigodu Syndrome

During field visits personal discussion was held with each patient to observe and diagnose the symptoms in

the victims of Handigodu Syndrome. Majority of the affected people were above the teenagers and below sixty years. One boy aged five years was also found with acute pain and swelling in the knee and the legs. There were nearly forty persons who could be considered to be dwarf, below the height of five feet. The major symptom observed was severe pain in the knee joints and elbows. In many cases, acute pain was reported in other parts of the body also. Two women were found in crawling and lying condition, who had lost their capacity to move, sit and stand up. The most common feature among the affected people was severe pain in the joints, with or without swelling. Their gait was awkward with forward thrust in movement. Some of them had urinary problems including water accumulation in the legs. The length of the hand from the elbow to the wrist and from the knee to the feet was shorter than the average length, which made their limbs disproportionate. Some had bent wrists. The above-mentioned features are not found uniformly in all the cases. Diagnosis (*Vyadivinishchaya*) was quite difficult due to considerable differences in the nature of disabilities and subjective description of pain. Nevertheless, they were broadly classified into the categories of *-vataja, pittaja and kaphaja* for the purpose of treatment protocol

**Discussion of musculo skeletal diseases in *Ayurveda*** *Bhavaprakasha* of *Bhavamishrawas* adopted as the basic text for identification of the symptoms and classification of categories and deciding the protocol of treatment. The types of *Vatavyadhi* among the affected people is given in Annex II: *Bhavaprakasha* had suggested some *Samanyaaushadhis* for such conditions like *Mahamashadhitaila, Mahanarayanataila, Mahayogarajaguggulu, Rasonakalka* (Garlic paste/ *Allium sativum* Linn) and *Vatari rasa*. Although *Bhavaprakasha* has recommended different treatments for the above diseases and treatment has to be based on the nature of the body (*deha prakriti*), it was felt impractical to follow such individualised treatment in the project area. Therefore, a feasible and practical protocol of treatment had to be worked out with the approval of the advisory committee, so that such medi-

cines and treatment can be given through a mobile team at the home of the patients - Annex III

**Pain in modern medical science:** According to modern medicine “pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” (International Association for the Study of Pain [IASP]). Pain is classified as follows:

**Assessment of pain:** Since pain can be expressed only in subjective manner, it can't be measured objectively. Pain is whatever the patient says it is existing wherever and whenever they say it does (Mc Caffery, 1968). Pain is assessed or estimated through the Pain Scale, in which its intensity is indicated by the patient in grades from 1 to 10. During diagnosis, the doctor has to take into account (i) onset, (ii) provoking factors (iii) quality (iv) region and radiation (v) severity (vi) times.

Two practical tools – Rating Scales, designed for convenience in pain management which are self-explanatory, are given in Annex IV:

#### **Results / Observations**

The project had surveyed 282 patients in the villages of Sagara Taluk but the evaluation was restricted to only 193 patients who were on regular treatment.

Feedback was collected by the project staff under 3 categories, with their respective signature/thumb impressions:

- 1) Those who were well satisfied and had distinct improvement in general health and pain reduction.
- 2) Those who had marginal/some relief.
- 3) Those who did not have any relief and benefit.

The result of the evaluation is given in the form of pie chart and table are at Annex V

#### **DISCUSSION AND CONCLUSION**

Evaluation had to be based on the subjective but authentic response of the people under treatment. Goniometer measurement was not found practical in view of the widely varying nature of disability. Nearly, 76% of the patients covered under the project were clearly benefitted by reduction in pain. Also, there was general improvement in health and higher level of self confidence in the beneficiaries. Women constitut-

ed 67% of the patients. 79% of the women patients were satisfied as against the satisfaction percentage of 69 only among the males. Since the patients who were not mobile and confined to their homes, were provided treatment at their doors through mobile van service for a period of 4 years. In the process they have been trained to take the Ayurvedic medicines and massage in order to make the treatment self-sustaining

#### **Recommendations**

- a. Ayurvedic medicines which generally do not have any side effects can be distributed free of cost by Ayush Department by the Handigodu Project of Government of Karnataka under the mobile unit of PHC Sagara by using the nurse/mobile van for two days in a week.
- b. baseline survey of anatomical features of school children to detect cases of disproportional features may be conducted in all schools of the region. Such orthopaedic survey of school children may be helpful in early detection and prevention. With general improvement in nutritional status over the years the, expression of Handigodu Syndrome in children in the teens appears to be reduced. Nevertheless, there are a few cases among the children.
- c. 141 Handigodu patients and 52 other handicapped /patients were helped to get Identity Cards of Handicapped Persons from Govt. of Karnataka, entitling them for enhancement of handicapped allowance for Rs. 500/ pm to Rs 1200 pm.
- d. 53 suspected cases who were x-rayed in PHC, Sagara for Handigodu Syndrome are to be examined further for certification.

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### Annex I: Types of pain (*Sushruta Samhita, Sutrasthan*, chapter 22, *Vranasravavijnaniya*)

Sl no	Vata	Pitta	Kapha
1	Todana- Pricking	Osha - Local burning sensation	Kandu-Itching sensation
2	Bhedana- Stabbing	Cosha - Regional burning sensation	Gurutva - Heaviness
3	Tadana - Beating	Paridaha - Generalised burning sensation	Suptata - Numbness
4	Chedana - Cutting	Dumayana - Feeling as if smoke coming out	Upadeha - Covered with paste / ointment
5	Ayamana - Stretching	Angaravakirnam - Burning sensation	Alpavedana - Mild pain
6	Manthana - Churning	Ushnavridhi - Rise of temperature	Stabdha - rigidity
7	Vikshepana - Throbbing	Kshara - caustic	Shaitya - Frigidity/ Frozen
8	Chumchumayana -Irritating		
9	Nirdahana - Burning		
10	Avabhanjana - Breaking		
11	Sphotana -Bursting		
12	Vidarana - Tearing		
13	Utpathana - Uprooting		
14	Kampana - Shivering		
15	Shoola - Rheumatic pain		
16	Vishleshana - Dividing		
17	Vikirana - Radiating		
18	Sthambana - Paralysing/ Numbing/ Stopping flow of blood		
19	Purana - Filling pain		
20	Swapna - Numbness		
21	Akunchana - Crushing		
22	Ankushika - Penetrating		
23	Animittavedana Different pains without specific cause		
24	MuhurmuhuryatraAgacchativedanavishesha Recurring pain		

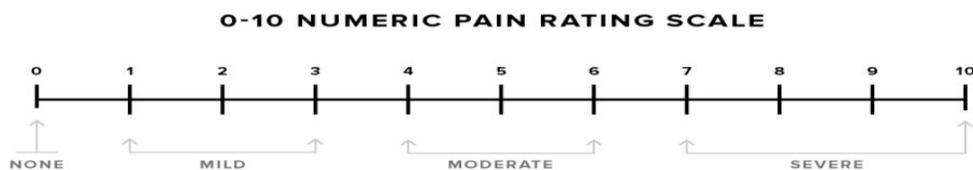
**Annex II: Types of Vatavyadhis in Handigodu**

Types	Features
<i>Bahushosha</i>	emaciation of the arm accompanied with pain
<i>Apabahuka</i>	pain and loss of movement of the arm
<i>Trikashula</i>	lumbar pain, pain in the waist
<i>Gridhrashi</i> (sciatica)	pain and stiffness of the leg commencing from the waist and descending to the feet with pricking and pulsating pain
<i>Khanja/Pangu</i> (Lameness)	inability to walk either on one leg or in both the legs
<i>Kroshtukashirsha</i> (Inflamed knee joint)	swelling of the knee joint (resembling the head of jackal) which is painful and hard
<i>Khalli</i> (distortions)	twisting of the feet, forelegs, fingers, hands and arms, accompanied with pain
<i>Padaharsha</i>	sensation or tingling in the soles
<i>Kubjaka</i> (Kyphosis)	bulging of the back accompanied with pain
<i>SarvangaVata</i>	throbbing pulsating and splitting pain in almost the entire body and feeling of breaking of bone joints, with or without cracking noise and body aches
<i>DhatugataVata</i>	
(a) <i>Tvak</i> (skin)	a) pricking and stretching pain, slightly red skin with pain all over the body
(b) <i>Raktha</i> (blood)	exhaustion, discolouration and stiffness of the body
(c) <i>Mamsa</i> (muscle tissue)	having pricked and heavy pain and stiffness of the body
(d) <i>Asthi</i> (bone tissues)	pain in the bones, joints, loss of strength of muscles and constant pain.
(e) <i>Majja</i> (Bone marrow)	continuous pain
<i>SiragataVata:Khalli and Kubjat-va</i> (Kyphosis)	disorders of the arm and the back
<i>SnayugataVata</i>	pain in tendons or nerve chords and pain accompanied with stiffness
<i>SandhigataVata</i> (Joint pain)	pain and swelling in joints
<i>Amavata</i> (rheumatism)	pain and swelling of the joints of the hand, feet, head, heel, waist, knees and thighs
<i>Vatarakta</i> (Gout)	swelling of the big toe joint with severe pain and swelling in copper colour.

**Annex III: Protocol of Ayurvedic treatment**

Details regarding pain	<i>Taila</i> for <i>swedana</i>	<i>Guggulu</i> for internal medicine	<i>Kashaya</i> for internal medicine
Pain in joints along with creaking sound and/or unbearable pain.	<i>KsheerabalaTaila</i>	<i>YogarajaGuggulu</i>	<i>BalaArishta</i>
Pain associated with burning and pricking sensation	<i>PindaTaila</i>	<i>KaishoradiGuggulu</i>	<i>ManjisthadiKadha</i>
Pain in joints associated with stiffness and numbness	<i>KarpuradiTaila</i>	<i>AmruthadiGuggulu</i>	<i>Dashamula Arishta</i>

**Annex IV: Pain Rating scales**

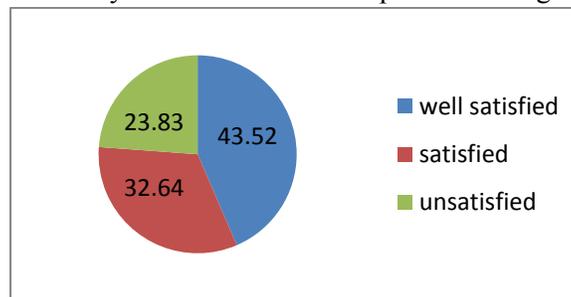




**Annex V: Analysis of 193 patients on regular treatment**

	Male	Female	Total	%
Well Satisfied	20	64	84	43.52
Satisfied	24	39	63	32.64
Unsatisfied	19	27	46	23.83
Total	63	130	193	100
	33 %	67%	100%	100%

**Annex V: Summary of Evaluation of 193 patients on regular treatment**



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