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Review Article

EFFECT OF MUD THERAPY IN THE MANAGEMENT OF KATIGRAHA: A REVIEW

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ABSTRACT

One cannot follow the rules of 'Dinacharya' and 'Ritucharya' described in 'Ayurveda' in today's hectic, rapid, and mechanical life. Because of intensive industrialization and the advancement of superior software technologies, humanity has fallen behind in living a quick and frenetic life. As a result, everyone who engages in improper sitting postures, long journeys, overexertion, jerky movements during travel and sports, weightlifting, sitting for a long time, and other strenuous activities, among other things, puts undue strain on the spinal column and contributes to the development of Low Backache even in their early decades of life. About 70%-90% of the population above 40 years of age suffers from this Low Backache disease.

Keywords: Shuddha Aama Vayu, Kati-shula, Trika-shula, Trika-graha and Prishtha-graha

INTRODUCTION

Katigraha has been noted in Ayurvedic Samhitas as a relatively frequent disease, characterized by Pain and restricted motions of Kati Pradesha (Lumbar region).

Katigraha etiopathogenesis is suggestive of Vatapradhana Vyadhi. Along with Vata, Kapha can play a role in causing stiffness, restricted movements, and other symptoms. Solely chronic Katigraha patients with only Vata involvement were chosen for this investigation.

Though Katigraha is the most prevalent diagnosis given to individuals with back Pain who visit clinics, the current management of disc illnesses includes Pain relievers, lumbar corsets, and Physiotherapy, among other things. The treatment is only symptomatic, notwithstanding recent improvements in western science. However, symptomatic Therapy of any disease is insufficient since it does not interrupt the pathogenic cycle. Looking at the etio-pathogenesis of Katigraha in Ayurvedic principles, Samprapti Vighatana requires Shodhana and Brimhana to regulate Vataprakopavastha. Mud is one of the five natural elements that has a significant impact on the human body in both good and bad health. Mudpack, a naturopathic treatment, has been found to be useful in a variety of diseases.

REVIEW OF LITERATURE

Katigraha: Katigraha is a combination of the words Kati and Graha.

Nirukti of Katigraha: Katigraha comes from the root kat + in, which means "shareera avayava vishesha." In Amarakosha, the word Kati means "katau vashtraavanau," which refers to the part of the body that is covered with fabric according to the old Indian dress code. The name graha comes from the Sanskrit word "upadhane," which means "one who supports, i.e. holds."

Paribhaasha of Katigraha: Shula or Pain is a major symptom of Katigraha, the most appropriate definition for "graha"¹ is grasping suffering. Katigraha is a Sanskrit word that means "grasping agony in the low back."

Katigraha is described in Ayurvedic texts in a variety of situations. It mostly affects the Kati Pradesha's Sandhis and their associated structures. Kati was categorized by Sushrutacharya as "Tunnasevani Sandhi," which means "movable in nature."²

Different Terminologies Similar to Katigraha: The same symptomatology generated in Kati-Trika Prishtha-vamsha Pradesha in different diseased states is described in Ayurvedic classics. Katigraha, Kati-shula, Trika-shula, Trika-graha, and Prishtha-graha are the names of the characters.

Katigraha as Symptom: The term Katigraha is used as a symptom in Vataja jwara³, Vidradhi in Vrikka⁴, and Pakwashayagata Vata Kopa lakshana⁵, among other places.

Kati-shula: Vata shonita lakshana⁷, Atoya udara lakshana⁸, Vatodara lakshana⁹, and Bhagandara Poorvaroopa¹⁰ are all symptoms listed in Sannipata Grahani⁶.

Trika-graha: Trika is derived from the Sanskrit phrase "trayaanaam sandhayaha," which means "union of three bones/three avayava as in any portion of the body." Trika includes the pectoral girdle, pelvic girdle, and sterno-clavicular joint. The Sacroiliac area can be considered Trika in this case.

Triteeyaka jwara¹¹, Madatyaya roga¹², and Pakwashaya gata vata kopa lakshana¹³ are all symptoms of Trika graham.

Trika-shula: The Pain caused by Vata vitiation in the joint of Sphik Asthi & Prishthavamsha Asthi is known as Trika shula. Pakwashaya sthita Vata kopa lakshana¹⁴, Amavata¹⁵, and Gudasthita Vata¹⁶ all have Trika-shula as a symptom.

Prishtha-graha: Prishtha-vamsha refers to the vertebral column, which is held back and causes Pain in this area and is also known as Prishtha-graha. Low back region includes the phrases Kati, Prishtha, and Trika. It is classified as such depending on the location of Pain. If we compare these structures to modern anatomical descriptions, we can see that the structures Trika represents are those found between Sphik and Prishtha, i.e., the lumbo-sacral area. Gridhrasi are also significant in this regard. Gridhrasi begins in Sphik and progresses to the waist, back, thigh, knee, shank, and foot, causing stiffness, anxiety, and piercing Pain, as well as periodic quivering¹⁷. These are Vata symptoms; however, they are also connected with tiredness, heaviness, and anorexia when the illness is caused by Vata and Kapha.

Katigraha as Disease: One of the Vata vyadhis is mentioned in Bhavaprakasha¹⁸ and Gada nigraha¹⁹. Katigraham, according to Bhava-prakasha, is the Pain caused by Vata vitiation in the joints of Sphik asthi and Prishtha-vamsha asthi. In Gada nigraha, Katigraha is described as a separate ailment. When Shuddha Ama Vayu becomes vitiated in Kati Pradesha, according to Gada Nigraha, it creates Pain in that area.

NIDANA

Nidana information is highly important for comprehending any disease. Every disease has its own causative factors, knowledge of which is essential for diagnosis, Sadhyasadyata and treatment. Katigraha is not explained as a separate disease in Brihatrayis so Samanya Vatavyadhi Nidanans are considered here. The Nidanans can be classified under: - Ahara, Vihara, Manasika and Anya.

Aharaja Nidana of Vatavyadhi: Rukshahara, Sheetahara, Alpahara, Laghu ahara, Kashayarasapradhana, Katurasapradhana, Tiktarasapradhana, Mudga, Masura, Nishpava, Harenu, Kalaya.

Viharaja Nidana for Vata Vyadhi: Ativyayama, Ratrijagarana, Divaswapna, Ativyavaya, Langana, Vegadharana, Vishamopachara, Shigrayana, Purvavata, Dukhashayya, Shrama.

Manasika Nidana of Vatavyadhi: Chinta, Shoka, Bhaya, Krodha.

Any Nidana of Vatavyadhi: Abhighata, Rogatkarshana, Dhatukshaya, Ama, Atiraktasrava.

Other than these factors, Acharya Charaka and Vagbhata have

mentioned four specific pathologies for Vata Vyadhi. They are: - Swaprakopaka nidana, Dhatukshaya, Margavarodhajanya and Agantuja,

Besides Vata, Ama also takes an important role in Katigraha. So an emphasis to Ama also is necessary among the etiological factors of this disease.

Mandagni causes undigested food materials to develop, which is known as Ama. Vata when associated with Ama is called Sama Vata. In Katigraha, either Shuddha Vata or Sama Vata can produce Pain and stiffness.

Poorvaroopa

These Poorvaroopa usually are exhibited during the stage of 'Sthana Samshraya' of the 'Shadkriyakala'²⁰. At that time when Dosh-Dushya-Sammurcchana takes place, some specific sign and symptoms are observed in particular disease which maybe clear or not, they are termed as Poorvaroopa. It is important to diagnose and treat the disease at this stage so that patient may be saved from the functional or organic damage as well as degree of morbidity which may be created during complete manifestation of the disease.

The account of Katigraha's Poorvaroopa does not exist in the classics. Even then, few of the general citations in the classics pertaining to the occurrence of the Poorvaroopa in Vatavyadhi are worth mentioning.

Acharya Charaka has mentioned that Aavyakta Lakshana are the Poorvaroopa of the Vatavyadhi. Chakrapanidatta commenting on the word Aavyakta mentions that few mild symptoms are to be taken as the Poorvaroopa²¹. But Vijayarakshita, the commentator of Madhava Nidana has given the clear meaning of the term Aavyakta, according to which symptoms not exhibited clearly are Poorvaroopa and they are due to- Weak causative factors, very less or mild symptoms and Less Avarana of Doshas.

The foregoing reference clearly shows that Aavyakta is Alpa Vyakta or less manifested. So, in Katigraha also Poorvaroopa can be taken as minor symptoms produced before the actual manifestation of the disease.

Vague Pain, mild discomfort in the low back and limitation in the spinal movements in its minimal severity may be considered as Poorvaroopa of Katigraha. The development of these symptoms following excessive exercise straining the back, or else direct trauma to the back are always corroboratory of Katigraha.

SAMPRAPTI

The study of Samprapti is the most important aspect of understanding the disease. It explains the complete disease process which starts immediately after Nidana Sevana. It includes the explanation about the derangement of Doshas and the pathological changes that takes place in a person leading to the formation of the diseases and also the mode of manifestation of clinical features²². As our Acharyas have stated, knowledge of Samprapti is extremely important from a Chikitsa standpoint. "Samprapti vighanameva Chikitsa", which means systemic breaking of Samprapti is called Chikitsa hence a proper analysis of Samprapti along with its Ghatakas is very much essential.

Katigraha is one of the Vata Vyadhis, according to

Gadanigrahakara. It clearly identifies Vata Dosha as the driving force behind the entire pathophysiology of Katigraha. He explains that the vitiated Shuddha or Sama vayu takes its Ashraya in the Katipradesha causing Pain and stiffness. In the dominance of Vata Dosha, Shula is the main presenting symptom. It is already mentioned that all the Nidanans of Vatavyadhi & Vata Prakopa can be regarded as Nidana of Katigraha. Specific Samprapti of Katigraha is not described in the classics but being a Vata Vyadhi its Samprapti Vyapara is on the similar lines of Vatavyadhis. The two types of Samprapti have been discussed before as Dhatukshaya and Margavarodha.

ROOPA

Roopa appears in the Vyakta-avastha i.e., fifth Kriya-kala of the disease. This is the unique stage of the illness, where in it is clearly recognizable as all its characteristic signs and symptoms manifest²³. Here in this stage, the Dosha-dushya Sammoorchhanais completed with the manifestation of all the Lakshanas of Vyadhi including the Pratyatma Linga, which are essential for the diagnosis of the disease.

Katigraha being a Vatavyadhi is characterized by Pain and stiffness at the Katipradesha. These symptoms manifest in a clear and distinguishable form from vague and mild form in Poorva-roopavastha. Katigraha is a self-explanatory phrase that refers to the defining trait of graham, or rigidity. The condition is such that almost all the movements at the Katipradesha or the lower back region are hampered preventing the person from performing his day-to-day activities.

Acharya Charaka has hinted regarding various Vatavyadhis, which can occur according to the Hetu and Sthana Vishesh, other than those he has explained in detail. Based on this excerpt various disorders can be considered due to vitiated Vata taking Ashraya in Katipradesha, including Katigraha. This progression occurs due to various Nidanans mentioned earlier including direct injury to the Katipradesha.

SADHYATA-ASADHYATA

Many elements influence the Sadhyata-asadhyata or prognosis of a disease, including the Bala of Nidana or Hetu, the strength of Dosha Prakopa, the disease's Sthana, the intensity of signs and symptoms, and the sickness's longevity. It also depends upon the age, sex, Roga-marga, Dhatu-dushti etc. In the case of Katigraha, some general rules apply. Furthermore, Katigraha is a Vatavyadhi, and Vayu's Svabhava, or natural trend, is a significant factor.

Vatavyadhi, according to Acharya Sushruta, is a type of Mahavyadhi that is difficult to heal. He also says that if the patient of Vatavyadhi develops the complication like Sunam, Suptatvacham, Bhagna, Kampa, Adhamana and Pain in internal organs, then he doesn't survive. According to Acharya Charaka, if Vatavyadhi is connected with Sandhichyuti, Kunjanam, Kubjata, Ardita, Pakshaghata, Anshashosha, Panguta and those which are Majja and Asthigata are usually cured with difficulty or even incurable.

Katigraha is a Vatavyadhi if it is associated with Kapha the chances of cure are more than in Kevala Vataja variety. However, if the patient arrives for treatment earlier and receives rapid, proper Therapy in a suitable dose and duration, the patient is more likely to be cured or suffer from a repeat Pain attack. In case the changes in the spinal joints are in advanced nature of the disease then with even the best treatment it is not likely to be cured.

UPASHAYA AND ANUPASHAYA

Upashaya are medicines, diets, and regimens that bring happiness either by acting directly against the disease's source or by having an indirect effect on the ailment. The Sanskrit word Upashaya means "exploratory Therapy." When identical symptoms having two or more disease are meeting hostily (or encountered) in such conditions, disease could be best differentiated by adopting Upashaya for Katigraha has not been mentioned particularly. However the Nidana mentioned for Vatavyadhi, can be considered as Anupashaya.

Upashaya: Upashaya is much important; especially during the treatment usually all drugs, diet and regimen which give long lasting relief in Katigraha may be taken as Upashaya, having Snigdha & Ushna Gunas are prescribed to pacify the Vata kopa. Ex. Abhyanga, Swedana, Ushna Ahara, Ushna Ritu etc. This should be adopted in the Nirama Avastha of Vatavyadhi (Katigraha) only. When the same drugs are prescribed in the Sama Avastha of Vatavyadhi the disease aggravates.

Anupashaya: All the drugs, diet and regimen which exaggerate the disease are taken for Anupashaya for Katigraha. Anupashaya can also be taken as Hetu of Vatavyadhi. When Upashaya method applied during Sama-avastha can also be included under Anupashaya. The diet having Laghu, Ruksha, Sheeta Gunas, Anashana, Alpashana, Sheeta Ritu can be considered as Anupashaya.

CHIKITSA

Katigraha one of the Vatavyadhi is produced by the vitiated Vata stemming out from the Pakvashaya, localizing in the Kati pradesha, may afflict the Asthi Dhatu, and vitiates the Snayu and Kandara of the Kati pradesha. The resultant condition is characterized by Pain and stiffness of the Kati pradesha. It is difficult to unify an effective treatment for this, as the disease may or may not be associated with Ama. Therefore, the procedures are aiming at the rectification of the imbalances in Vata Dosha as well as Kapha Dosha forms the sheet anchor of treatment of Katigraha.

The general principles of treatment of Vata Dosha should be adopted in cases of Katigraha after the assessment of Doosha, Prakruti, Vaya, Linga, Bala, Satwa, Satmya. The treatment of Katigraha includes various measures to suit its varied clinical entities, stages and associated complaints. The treatment also constitutes the Aahara, Vihara, Shodhana, Samana and surgical measures. The specific Nidanans of the diseases must be identified and efforts must be made for its Parivarjana. The etiological factors mentioned previously pertaining to Ahara Vihara etc is to be avoided with special reference to the identification of the actual cause of the patient's present condition. After reviewing the classics, it is ideal to manage Katigraha with following principles of treatment.

Snehana: Snehapana can be adopted in Katigraha except in conditions of Ama, Avrita-Vata, Ajeerna, Aruchi etc. In case of associated Ama or Kapha Dosha, Langhana and Pachana are the first line of treatment preceding Snehapana to facilitate the Nirama-avastha. Both Ghrata-pana and Taila-pana can be effectively adopted according to the conditions after attaining Nirama-avastha. Bahya Snehana can be performed in the form of Snehadhara, Abhyanga, Avagaha, Parisheka, Katibasti etc.

MUD THERAPY: The idea of Loka and Purushsamy put forth by Ayurveda reflects this strong bonding with nature and hence is very much perfect and comprehensive.

The natural way of healing is the hallmark of Naturopathy. God has not given us any disease for which he has not provided a remedy, only we must have the vision to look at it. Naturopathic Medicine, also known as Naturopathy, is a type of medicine that treats patients with natural substances while also acknowledging that the patient's mental, emotional, and physical states must all be addressed for a long-term benefit. Nature Cure is based on the transcendent truths of Metaphysics as taught in our ancient Vedic lore. It is based on the idea that the body can cure itself. If you live in a healthy atmosphere, your body will cure itself and recover from illness on its own.

Naturopaths offer a variety of cures and suggestions for creating a healthy environment in which the body can heal itself. It also considers the external variables that disrupt the body's regular functioning and cause it to become sick, feeble, and poisonous. Naturopathic medicine is based on the vitalistic belief of nature's healing power. This suggests that there is a healing energy within every human being, which includes our immune system in the broadest sense of both physical and mental health and is responsible for our wellness and ability to heal and maintain health. Nature Cure does not believe in a single cause of disease or a single Therapy for it, but rather considers the entire set of elements that contribute to disease, such as one's unnatural behaviors in living, thinking, working, resting, relaxing, and sexual indulging, to name a few. Naturopathy implies with the process of natural way of Detoxification, Rejuvenation and Learning the Art of Healthy living with the help of Panchabhuta—The five great elements of the nature i.e. Mud, Air, Water, Sun and Ether. This approach guides us to a more natural way of living in order to stay healthy and treat ailments with natural resources.

Amongst the five elements Prithavi or Earth exhibits the utmost stability. Ancient literatures such as Vedas are referred for the glimpses of earth cure.

Mud is one of the five natural elements that has a significant impact on the human body in both good and bad health. Mudpack, one among the naturopathic treatments has been found effective in many of the ailments.

Ancient Views of Mud Therapy: Earth was used extensively for remedial purposes in ancient as well as the middle age. It rose to popularity as a valuable medicinal agent again in the twentieth century thanks to the tireless work of Emanuel Felke, a German-born Lutheran clergyman known as Clay Paster. He found that the forces of earth have remarkable effects upon human body, which are described as refreshing, invigorating and vitalizing. He firmly believed that for wounds and skin diseases application of clay or moistened earth was the only true natural bandage.

The contribution of German naturopaths Kneipp, Louis Kuhne and Adolph Just in the field of Mud Therapy is the framework of natural treatments. Adolph Just (1838-1936), one of the pioneers of nature cure, believed that all diseases, but especially the serious nervous troubles of over age, would lose their terrors, if only sleeping or lying on earth at night became customary in the curing of diseases.

Jesus Christ attached a great deal of importance to the practice of going barefooted. Men can draw vital energy and strength out of the earth through the feet.

During the second half of the twentieth century pharmacology developed which gave the idea of Mud Therapy to be considered within alternative medicine. The use of Dead Sea Mud in Israel dates back millions of years, and many have lauded its healing qualities from the time of the Roman Caesars to the present day.

Structure of Mud: Mud consist of 53 percent clay, 36 percent minerals, 4 percent water & 7 Percent organic, as decomposed vegetable matter including fungi, algae and decaying animal matter in solid, gaseous and aqueous states. It is the result of gradual breakdown of rocks that is continued over thousands of years. Weathering and erosion break down the rock on the surface into tiny bits, which are subsequently combined with moss and organic materials and deposited layer by layer over time. The mineral found in Mud vary and change from one location to another. Antiseptic and substances interchange capacity are attributed to the mineral components of Mud. The mineral contents of Mud are predominantly Aluminum, Iron and Magnesium hydrated silicates, crystalline and amorphous. They differ in their properties, crystalline network and capacity to replace the elements.

Besides these elements Mud also consists of macronutrients like Sulphur, Phosphorous, Potassium, Carbon etc. and micronutrients including Zinc, Iron, Copper, and Manganese etc. Zinc in the form of Zinc oxide is easily absorbed by the skin. Constituents like copper, carbon; phosphorous, potassium, iron and manganese are not readily absorbed by the skin. Maturation occurs due to the prolonged contact between the earth and mineral waters which produces a variety of chemical reactions within the Mud itself and then contributes to its therapeutic properties. As there are many varieties of mineral waters found throughout the planet the chemical composition of the therapeutic Mud varies from place to place. Soil of Northern hills is very good for arthritis, spondylitis, sciatica and paralysis; Mud of the desert is good for viral infections. The Mud of South India is said to be rich in mineral and has the most effective properties against many diseases.

Chemistry of Mud: The chemical structure of Mud contain hydrophilic organic substances, such as humic, fulmic and ulmic acids, also the low- molecular weighted organic substances composed of fatty acids in the majority, like palmitic acid, lauric acid, oleic acid etc. The chemical properties of Mud can be analyzed by using gas chromatography-mass spectrometry.

The contents and the topography from where it is collected determines some of the physical and chemical characteristics of Mud like colour, as iron in the Mud changes its colour gradually from white to brick red colour. The abrasive quality is attributed to the presence of very fine quartz, sand, mica, powdered opal, fossil fragments and high-density minerals such as sulphates and carbonates.

Some studies Semaghiul and Dobrinas investigated the therapeutic value of water and Mud from the Salt Lake (Lacu Sarat) in Romania. The total content of Fe, Cu, and Cr in the sapropelic Mud was investigated. The results prove the existence of ionic exchange between the therapeutic Mud and human organism at the epithelial level.

Ognean et al studied the correlation between the Mud's three enzymatic activities and the therapeutic effect in various seasons of the year by estimating the phosphatase, dehydrogenase and catalase activities in the eight lakes Mud. The experimental results showed a seasonal variation in dehydrogenase and catalase activities (greater activity in summer) and phosphatase (greater activity in winter).

Types of Mud: Indian naturopathy is a holistic view; it advises the patient to collect the Mud from the locality where the patient lives. Western naturopathy includes several sources of therapeutic Mud based on its composition and constituents. Common among them are: Moor- peat based organic Mud, Fango- thermal Mud's of hot springs, Brine –highly saline coastal Mud's and Healing clay- usually mineral clays. Medical Mud can also be classified depending upon its physical and chemical properties. This is as follows: Silt sulphide Mud, Sapropelic Mud, Peat Mud and Hill Mud.

Preparation of Mud

Selection: Negligence in selecting the appropriate type of Mud may give rise to various infections. Soil containing harmful microbes, spores, eggs, worms etc. should be avoided.

Collection of Mud: The Mud available in the natural form is best suited in Mud Therapy. Mud is collected from an ant hill or from a high ground rendered clean by rain or from the riverbeds or from plain hills or from an uninhabited area which is not polluted by sewage, chemicals, fertilizers, humus etc. Usually, Mud is taken 3-6 ft deep from the surface layers. The earth is powdered well and sieved to remove the coarse particles of sand and stones in it. It is mixed with water and again sieved to remove the pebble sand compost. It is stirred well and then allowed settle. After this process water is removed by decantation. This is repeated until the earth becomes perfectly clean. Their side of fine Mud is dried under the sun, and it is later powdered and stored for use.

Processing of Mud: Before being applied to the necessary portion of the body, the earth powder is soaked in sterile and clean water and made into a paste. Boiled or cold or warm water can be utilized depending upon the specific conditions. It can be used as cold tepid or hot according to the condition of the disease. When large quantities of Mud are used, it is soaked in water for 1 – 2 days. Later water is drained & Mud saturated with water is used for Therapy.

Mode of application: Mud is applied in body in two ways: Mud bath and Mud pack.

Types of Mud packs: Mud pack for naval, stomach, neck, eyes, forehead etc. As a routine Mud pack are done for abdomen to eyes to all persons

Advocate Technique: Clay is obtained from ten centimeters beneath the earth's surface to make suitable Mudpack. The patient is in the sitting or lying posture. Mud made into a paste with cold water 1-2 hours before use. Fomentation (warm moist medicinal compress or poultice) is applied to the treatment region for five minutes until it is fully heated. 1 thick red Mud is spread with wooden stick on the cloth. Surface is made smooth; it can be done over any affected or desired parts like arm, foot, abdomen etc. Chronic Pain, intestinal cramps, and lumbago are all treated with hot and cold Therapy.

Low Back Packs: The Mud is applied on the Low Back for disorders such as Low Backache, Lumber Spondylosis, and Sciatica etc. On a cold weather a blanket should be used to cover the body. Duration is 20-30 min. It relieves all type of Pain. It stimulates Blood Circulation. The dimension mentioned for this type of pack are generally 20 cm *10 cm *2.5 cm for adults.

The Mud pack is left uncovered; it has a cooling effect on the affected part. But it is covered with thick cotton or woolen cloth, generally a warming effect is developed.

Locally applied Mud can be removed after getting dried and washed with clean cold water.

Duration: 30 minutes to 1 hour is observed.

The four main properties of Mud are as follows:

Absorbing power: The antitoxic and decongestive qualities of the Mud are due to its high absorption capacity. Colloidal size particles with their enormous surface accounts high absorption capacity.

Cicatrizing action: Mud cicatrizes wounds, eczemas, and other disturbances of the skin very quickly due to its high aluminum silicate contents. As a result, there are less scars and markings.

Stimulating capacity: Mud absorbs several types of radiations such as solar, magnetic, radioactive etc. it may be released again, but at a lower frequency, resulting in a very concrete potential of organic stimulation, which influence the body metabolism, there by invigorating the cells reconstruction and accelerating all the organic processes.

Antimicrobial effect: Its highly powerful absorption effect inactivates the microorganism, and such action seems to be strengthened by a natural antibiotic capacity of Mud.

Benefits/local effects: It improves blood circulation, stimulates metabolic exchange in cartilages, Anti-inflammatory, Analgesic, increase pulse and body temperature, Muscle relaxing and smoothening, Revitalizing action and Stimulates bone cell activity in joints.

DISCUSSION

More importantly, the pain reduction seen with Mud Therapy is clinically significant. Mud-heat Therapy paired with core training had no significant group effects on muscular characteristics as compared to core exercise alone. The findings could support the use of mud therapy as an alternate strategy for persistent Low Backache patients seeking pain alleviation and motor improvement.

Medication is the first line of defense in the treatment of Low Backache, but long-term use can lead to tolerance or hyperalgesia^{24, 25}. Furthermore, taking pain medication increases the risk of complications such as falls, fractures, and depression. Non-pharmacological treatments can be considered supplemental and alternative approaches for the therapy of persistent nonspecific Low Backache in light of these disadvantages. Mud Therapy, as well as an appropriate non-pharmacologic pain control strategy and increase of back muscle strength and stability, can be used to relieve Low Backache. The effect of Mud intervention as a non-pharmacologic and alternative intervention for chronic Low Backache therapy was demonstrated in this study.

Interestingly, Mud Therapy intervention resulted in a significant improvement in Pain at Rest and Pain Pressure Threshold of the Low Back in this study. Our findings are backed up other studies that show Mud intervention has a positive effect on chronic musculoskeletal pain, particularly Low Backache. The study demonstrated the viability of using Mud Therapy in the clinic to treat persistent nonspecific Low Back Pain.

Mud Therapy also showed a reduction in pain, pain pressure threshold, and low backache-related impairment. Several research that looked at the impact of mud therapy on pain, sensory, and

motor function back up our findings. Mud Therapy may affect the level of -endorphin in patients with chronic nonspecific Low Backache, and the mechanism of Mud Therapy's pain-relieving impact could be linked to an endogenous opioid mechanism. Mud therapy reduces muscular tone and stiffness considerably. Long-term and recurrent therapies are required to fully measure any changes in muscle tone.

CONCLUSION

The findings of the study demonstrated the efficacy of moor heat a main and important therapeutic intervention for Pain, disability, and balance in patients with nonspecific Low Backache. Since the effect of this intervention on muscle properties was inconclusive, to support moor Therapy as an evidence-based alternative intervention for nonspecific Low Backache.

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