



International Journal of Pharmacy & Therapeutics

Journal homepage: www.ijptjournal.com

IJPT

AN INTRODUCTION TO MUD THERAPY: A REVIEW

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ABSTRACT

Mud therapy is a simple, cost effective and efficacious treatment used in treatment of neurological, rheumatological, cardiovascular, gynecological, inflammatory and menstrual cycle disorders. The mud used for this should be clean and taken from 122 to 156 cm depth from the surface of the ground. It should be free from contamination of stone pieces and chemical manures, etc. Before using, mud should be dried in sun rays, powdered and sieved to separate stones, grass particles and other impurities. Mud therapy is used for giving coolness to the body. Mud dilutes and absorbs the toxic substances of body and ultimately eliminates them from the body. In different disease conditions like constipation, headache due to tension, high blood pressure and skin disease, mud is used successfully.

Key Words:- Mud, Fangotherapy, Clay, Peat, Naturopathy.

INTRODUCTION

Mud is one of five elements of nature having immense impact on the body in health as well as disease. Mud has a remarkable effect to refresh, invigorate and vitalize the human body. Mud procured for treatment purpose is free from pollution and contamination and is cleaned and sifted before use. Mud therapy includes Mud bath, Mud pack etc.

Mud therapy is usually based on two principal elements Prithvi (earth) and Vayu (air). Since mud therapy is used for ancient times for treating health problems however, it is found that number of people still shudder at the thought of applying mud paste on their body. For example one may have seen number of animals rolling about in the mud to get rid of external parasitic infestations on the other hand very few human are willing to experiment with the same. This is because mud is strongly associated with dirt and filth, worms and bugs.

It has been found that walking barefooted on dry

mud helps in stimulating the acupuncture points of soles and consequently, boost the body deficiencies. On the other hand it has been found that sleeping on mud help in reloading our energy levels and literally brings down to earth, so that our body and mind heal through the positive vibrations and magnetic forces which earth have's. It will be surprised to know that a strange form of treatment which is usually done in India, is patient covered in the mud to up the neck for few hours till the person heals. This type of treatment is also known as mud bath. Therefore care is taken to ensure that this mud is free of impurities and animal excreta. Warm water is added into mud and then mud paste is made. After this paste is ready then this paste is applied on individual's body. It will be amazed to see how this much can help us in getting rid of conditions such as psoriasis, eczema and vitiligo.

FANGOTHERAPY

Fangotherapy is the use of mud, peat, and clay for healing purposes (Ekmekcioglu C, 2002). The word, fango, is the Italian word for mud and so strictly speaking peat and clay should not be labeled as fango treatments.

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Each of these materials (mud, clay and peat) has its own special properties but in general they hold heat and are useful as a thermal application for chronic conditions (Sukenik *et al.*, 2000). They also stimulate circulation and lymph flow, support detoxification and help the body to relax. Some types of fango have anti-inflammatory and pain relieving properties that make them useful for soft-tissue injury.

Types of Products Used in Fangotherapy

All types of fango have heat retention properties and can be warmed up and applied to relax the body or decrease muscular tension (Werner, 2002). Clay, mud and peat have different therapeutic properties and uses. Clay is mainly mineral (derived from rock) and is the most 'drawing' and stimulating of the fango substances. Mud is also predominantly mineral but has small amounts of organic components that give anti-inflammatory or analgesic properties. Peat is therapeutically the most active substance of the three as it is mainly organic and derived from the breakdown of plant material over thousands of years. A number of European studies had concluded that peat is anti-inflammatory, analgesic, a circulatory stimulant, antiviral, immune-boosting, and endocrine balancing.

CLAY

Clay is a general term for a variable group of fine-grained natural materials that are usually 'plastic' when moist (Poensin *et al.*, 2003). When viewed under an electron microscope, clay particles are about 100 times longer than they are wide. If water is added to dry clay, the moisture is held between the flat plates by surface tension so that the particles do not pull apart, but instead, slide easily over one another. This gives moist clay its smooth and creamy consistency. Many different types of clay are commercially available from different soils and environments around the world. Clays from marine sediments or from areas around hot springs or geysers usually have a higher mineral content than other clays, but all commercially available clay has the same basic properties. First, clay holds heat and so can be warmed and used to decrease muscle tension and relax the body. Second, clay is highly absorbent and is used to draw impurities and moisture from the surface of the skin. This 'drawing' action simulates circulation and lymphatic flow and purifies the skin. Finally, clays readily suspend to form an emulsion in water or other liquid substances. This property is useful in cosmetics as clay helps to hold other substances together and prevent separation. Clay is regularly used as an emollient and colorant in powders, liquid foundations, lotions and skin masks. This

characteristic also makes it useful as a carrier product for other therapeutic substances. Items like seaweed, herbal infusions, essential oils and natural food products (yogurt, honey, milk, fruit juices and mashed fruits) can be mixed into clay to make interesting treatment products. The use of clay is often associated with the areas in which it was mined (Carabelli *et al.*, 1998).

MUD

While mud is mainly mineral in origin like clay, it contains 2–4% organic substances which play an important role in its therapeutic use (Hendrickson T. 2003). Therapeutic mud is "matured" or "ripened" in natural mineral water. The maturing process for each mud may be slightly different, but generally it involves the oxidation and reduction of the mud over a period of up to 12 months. The process of maturing the mud is characterized by changes in the chemical composition of the mud, and changes in its appearance. Sulfur is perhaps the most important component in the different kinds of therapeutic mud and occurs naturally in the vicinity of volcanoes and hot springs. Sulfur baths have been researched as a viable means of reducing oxidative stress on the body and decreasing inflammation in muscles and joints. Sulfur rich mineral and mud baths are useful in the treatment of osteoarthritis, rheumatoid arthritis and other inflammatory conditions. Individuals report that they experience increased strength, decreased morning stiffness, better walking ability and decreased pain after a course of sulfur mud treatment. Therapeutic mud is also used successfully for bursitis, tendonitis, sprains, strains and other musculoskeletal injuries and disorders.

Types of Mud

Mud found in different parts of the world has different properties. Mud composition varies with the place of origin. Firstly, mineral constituents of mud vary with the kind of rocks found in the region and the process of soil formation. Secondly, mud property is influenced by kind of flora and fauna of the region. Therefore, it is essential to learn about properties of mud before utilizing it benefits (Rajiv Rastogi 2012). It is important to note that before using any type of mud it should be dried, powdered and sieved to remove any type of impurities such as stones, grass, etc.

1. *Black mud:* Dark cotton soil having some greasiness is suitable for mud therapy as it is rich in minerals and also retains water for long time. It should always be free from contamination and any kind of pollution.
2. *Mud from Dead Sea:* Cleopatra and Queen Sheeba used it for enhancing beauty; black mud of Dead Sea has beautifying and therapeutic powers. It contains more

than 20 kinds of salts and minerals including Magnesium, Calcium, Potassium Bromide, Silicates, Natural Tar and organic elements. While these beneficial minerals are useful for healing any kind of skin disorders, the presence of silicates make its masks very beneficial for softening and cleansing skin. The mud enhances blood circulation and leaves the skin with a glow.

3. **Moor Mud:** It is mud produced over thousands of years from organic residue of flowers, grasses and herbs. This residue transformed over several years to fine paste which contains fulvic acids, vitamins, amino acids, plant hormones, humic acids in a form which could be easily absorbed by human body. The mud has chelatic properties which enables its top layer to filter out impurities/pollutants and preserve purity of the mud. This mud has therapeutic properties and is useful in detoxification, healing, beautification, nourishing human body. The mud has anti-inflammatory and anti-aging effects. It is also useful in conditions such as Arthritis and recovery from injury in sports (Evcik *et al.*, 2007).

PEAT

Sphagnum is the main genus of mosses that form a bog (Fraoli *et al.*, 2009). As the Sphagnum moss decays, the bog becomes filled with a deeper and deeper layer of dead Sphagnum which is known as peat. The lack of oxygen in the bog and the acidic conditions created by Sphagnum slows the growth of microbes. This is why human bodies unearthed from peat bogs thousands of years after burial are perfectly preserved. As the rate of decomposition is very slow, the minerals usually recycled by living things remains in the peat. This is why peat is therapeutically active and why gardeners use peat to build up the fertility of soil.

Peat is usually broken down into two main commercial categories; high-moor peat or low-moor peat. The basis for this is unclear and the two types are often so similar that they are difficult to separate without information on their geographical origin.⁹ Spas generally prefer to use low-moor peat (a well-known lowland peat is Moor mud from the Neydharting Moor in Austria) because it is thought to have a broader range of therapeutic properties than high-moor peat.

This idea reflects the belief that compared to high moor peat; low-moor peat is composed of a wider range of plant species and so is likely to have a wider range of therapeutic properties. However research gives no clear evidence of a significant difference in the therapeutic benefits of the two types of peat.

FORMS OF MUD THERAPY Mud Packs: This involves frequent application of packs of mud. It helps in

improving skin complexion and acts on skin spots and patches to reduce them.

Mud Baths: This involves application of special kind of mud rich in natural salts and mineral over the entire body (except head). Mud baths are useful in many skin diseases such as Psoriasis, Urticaria, and leucoderma (Riyaz *et al.*, 2011).

Mudpack

Mud packs are typically used for local application. The construct and usage of a mudpack is similar for all applications on the thickness and the size varies as per the usage. To make a mud pack first soak mud in water for 30 minutes. Now take a thin wet muslin cloth and apply mud evenly on the muslin cloth to form a uniform thin layer of half to one inch in thickness. Fold all the sides to make it a compact pack (Chadzopulu *et al.*, 2011).

Mudpack for Eyes: Mud soaked in water is spread to make a half inch thick layer. The pack is typically 9 in X 6 in, enough to cover eyes completely. It is placed on the eyes for 20 to 30 minutes. An eye mud pack helps in relaxing the eyes; especially good for those who require to sit in front of a computer for long hours. Therapeutically, it reduces irritation, itching or other allergic conditions such as conjunctivitis and hemorrhage of the eye ball. It also helps in correcting refractive errors like short/long sightedness. It is effective in Glaucoma, where it works to reduce the eye ball tension.

Mudpack for Head: A head mud pack is normally a thick narrow band. It is applied over the forehead and helps to heal congestive headache relieves pain immediately.

Mudpack for Face: Fine mud is used for face and a smooth paste is first made using cold water. Apply this paste evenly on the face and leave it to dry for 30 minutes. After 30 minutes one must thoroughly wash the face with cold water. It helps in improving the complexion of the skin. In cases of acne it helps by absorbing excess oils and toxins from the skin. It also helps in reducing dark circles around the eyes.

Mudpack for Abdomen: The size of a mud pack for abdomen is generally 10 in X 6 in X 1 in for adults. The mud pack should be applied for 20-30 minutes. The body and the mud pack should be covered with blanket, if applied during the cold weather. An abdomen mud pack helps in all kinds of indigestion. It is very helpful in decreasing intestinal heat and stimulates peristalsis.

Mudbath

First the mud is prepared by soaking it in water. The mud is then applied to the full body either in sitting or lying down position. Mud is kept for 45 to 60 minutes and ideally be exposed to sun light, at least intermittently. Remember that the head should always be covered when exposing the body to sunlight. Afterwards, the person should be thoroughly washed with cold to luke warm water. Dry the person quickly and transfer to a warm bed. A mud bath helps in increasing the blood circulation and energizing the skin tissues. It thus helps in cleansing and improving the skin condition generally. Regular mud baths may be considered as natural beauty treatment procedure as it also helps in improving skin complexion and reducing spots and patches, possibly the result of some skin disorder like chickenpox or small pox. Mud baths are useful in many skin diseases such as Psoriasis, Urticaria, leucoderma, Leprosy and other skin allergic conditions.

Despite therapeutic properties of mud which are very useful in maintaining good health and glowing skin, the over-use of mask applications may lead to excessive drying of the skin. Therefore it is essential to keep the pack moistened to avoid excessive dryness and stretching. Also, the mud must be carefully chosen for obtaining desired results, and its quality must be ensured to avoid any complications (Bellometti *et al.*, 1997).

Therapeutic Benefits of Mud Pack and Clay Pack

Mud pack is broadly made use of clay treatment due to its several wellbeing many advantages. The character remedy therapists are adopting mud therapy to body in wounds, boils, bruises and other disorders along with acceptable food regimen and therapies. It is much more useful than the cold packs, as it retains the coolness

and moisture in the entire body for very long time. Other added benefits of mud pack are, it take up toxic compounds from the physique. It relaxes the skin pores, and draws the blood to the pores and skin, and relieves the congestion and soreness and agony and eradicates the morbid make any difference. It will increase the high temperature radiation. It is a good hair conditioner and is good for skin. It relaxes muscles and improves blood circulation. It maintains metabolism rendering positive impact on digestion. It is useful in conditions of inflammation/ swelling and relieves pain. It is useful in condition of stiff joints (Flusser *et al.*, 2002).

The mud pack is organized upon acquiring clay from 10 cm listed below the area of earth. The clay acquired have to not comprise dangerous substances or chemical substances. The clay is made as a sleek paste with warm drinking water, subsequent to taking away impurities and it is permitted to wonderful and afterwards it is unfold on a material piece. The length is 10 minutes to 50 % an hour.

Clay pack or mud pack is extremely worthwhile therapy in nervous diseases, weak point, fever, scarlet fever, influenza, measles, swellings, ear and eye troubles, rheumatism, gout, liver and kidney problems, tooth ache, head ache, and typical overall body aches. It is also helpful in abdominal disorders as indigestion and bowel illnesses. It promotes labor pains. It is also used subsequent to fomentation to the figure for about 15 minutes.

Mud pack reduces the swelling of any component of the physique. In case of significant fever, the temperature can be introduced down with the help of clay pack. It has to be modified repeatedly until the sought after decreasing of temperature is affected (Galzigna *et al.*, 1998).

Table 1. Composition of Fangotherapy

Composition	Categories	Main types	Commercially name	Properties	Uses
Mainly mineral	Clay	Kaolinite	Kaoline,China white	Thermal,relaxing, circulatory stimulant, excess oil and Draw out impurities,	As a thermal agent to warm and relax the body, as a base for treatment
		Illite	French Green	suspends to form an emulsion to hold cosmetic substances	Products, for esthetics
		Semectite	Bentonite, Fuller's earth MAS	together, acts as a carrier for other therapeutic products	Cosmetic emulsions
	Mud	Sulfur Containing and	Dead sea Euganaean Piestany Many other	Anti-inflammatory	Arthritis,muscle pain or soreness,

		"matured"		circulatory stimulant, Immune-boosting, thermal, detoxifying, relaxing, others	inflammation, Joint pain, revitalization, esthetics, others
Mainly organic	Low-moor Peat	Mosses and Other plants	Moor mud Many others	Anti-inflammatory, Circulatory stimulant, Antiviral, antiseptic,	Arthritis, muscle pain or soreness, joint pain, inflammation
	High-moor Peat	Mainly mosses	Many European types	Immune-boosting, Endocrine balancing, thermal, relaxing, others	relaxation, revitalization, esthetics, others

CONCLUSION

Fangothrapy is the use of mud, peat, and clay for healing purposes. Mud is an important treatment modality used in naturopathy which plays an effective role in the treatment and management of various diseases.

ACKNOWLEDGEMENT: None

CONFLICT OF INTEREST:

The authors declare that they have no conflict of interest.

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