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Article in *South Asian Journal of Cancer* · December 2021

DOI: 10.36346/sarjams.2021.v03i05.00X

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Review Article

Volcanic Stone Massage and its Benefits

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Article History**Received:** 21.11.2021**Accepted:** 25.12.2021**Published:** N/A

Abstract: Hot volcanic massage is a treatment from the Far East that has been used for more than 1000 years, and today is an integral part of anti-stress programs in spas around the world. The aim of our research was to study the extent to which this alternative method of massage has proven health benefits through the analysis of already published papers. **Material and method:** We performed a retrospective analysis of published papers on the effect of heat and massage on pain, stress, depression, and muscle tension. **Results:** Hot massage has positive effects on musculoskeletal pain, fibromyalgia pain and degenerative rheumatism. Side effects can occur if the heat is too high and causes burns, drop in blood pressure and dehydration. **Discussion:** Research on the effect of treating volcanic rocks on health problems is scarce. This alternative method can be applied due to the known physiological effect of massage and warmth on a scientific basis along with indications and contraindications. **Conclusion:** The treatment with volcanic stones has the effects of heat treatment and massage with still insufficiently measurable parameters for the combined effect and concrete evidence.

Keywords: Volcanic rocks, proven health benefits.

INTRODUCTION

Volcanic stones are rocks formed by cooling lava on the Earth's surface. Hot stone massage is a type of massage and heat therapy. It is used to help relax tense muscles and damaged soft tissues throughout the body. During the massage with hot stones that are smooth, flat and warm, they are applied to specific parts of the body. The stones are usually made of basalt, a type of volcanic rock that retains heat. The hot massage stones are heated to a temperature of 60-75 degrees Celsius, in specific water pot. The stones can be placed: along the spine, on the gills, on the chest, on the face, on the palms and on the feet and toes.

Therapists first apply stone massage using techniques of long strokes, circular movements, vibrations, kneading and sliding on the skin, and then when they cool down a bit, they are left to stand on flat surfaces on the skin, and the client is covered with a blanket. After the treatment with this type of heat therapy together with the massage, the client is left to air condition for another 30 minutes in the premises of the spa center or goes to another therapy that has a lower temperature. This massage is explained in the medical literature as a form of alternative massage [1, 2].



Fig-1: Massage of back with volcanic stones

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The aim of our research was to study how this alternative method of massage has proven health benefits through the analysis of already published papers.

Material and method - We made a retrospective analysis of already published papers mentioning the application of heat therapy with volcanic stones, as well as the benefits and side effects of this therapy. We analyzed the results in two categories: benefits of massage and heat therapy and side effects of heat massage.

RESULTS

Benefits - Heat is used as a physical procedure to reduce muscle tension and pain. It helps to increase blood flow to the affected area. It can also reduce muscle cramps and increase flexibility and range of motion in the joint [3]. A 2001 study found that a ten-minute massage improved cardiovascular responses, such as heart rate. Another study found that a 15-minute chair massage at work significantly reduced stress compared to a 15-minute non-massage break. Today it is known that massage has an anti-stress effect because after its application the level of cortisol in the body decreases [4, 5]. A one literature review argued that massage may be an alternative to non-pharmacological treatment in patients with insomnia. Research has shown that back massage has helped promote relaxation and sleep [6]. If the effect of heat and massage is combined, then a treatment with hot volcanic stones is obtained. Hot stone massage can relieve painful conditions by fibromyalgia. Fibromyalgia is a condition that causes widespread, chronic pain. People with fibromyalgia who received a 30-minute massage slept longer, had fewer trigger points, and had lower levels of substance P (a substance involved in transmitting pain signals) than people with the same condition who received other techniques of relaxation. More research is needed before massage becomes a common treatment for fibromyalgia [7]. A one study (2013) found that people with rheumatoid arthritis may benefit from a moderate-pressure massage, such as a hot stone massage. Study participants experienced less pain, greater grip strength, and greater range of motion after one month of massage therapy [8]. Massage can boost the immune system by lowering cortisol levels. According to a study from 2010 year, a massage session had a positive effect on immunity. Blood samples taken before and after the massage showed a decrease in arginine-vasopressin, a hormone that helps regulate blood pressure and water retention [9, 10].

Unwanted effects

Although hot stone massage is generally considered safe, some people may experience certain side effects: such as burns, bruising, pain and discomfort, increased sensitivity to heat, and risk of infection [11, 12]. This is explained by the following: Most trained therapists are careful when applying this alternative method, but there is still a possibility that the stone will heat up too much. This can lead to burns, scalding and tissue damage. Others patients have felt pain for a few days after applying this type of massage. The use of stronger pressure by the therapist can lead to bruising. In some people there is a provocation of stronger pain than before the treatment. This is explained by the intolerance to heat. If a larger amount of heat and heating is applied during the application, the clients will get vasodilation, fever and drop in blood pressure, followed by headache and dizziness. The use of stones involves intimate skin contact - the oil used to avoid abrasions and the pressure used during the massage is not sterile. When heating the stones, for the next client, they are not disinfected, and also the rest of the furniture and instruments are not absolutely sterile, so light skin abrasions can cause a reduction of its protective role and the introduction of infection. The heat and movement of body stones increase blood flow to the surface of the skin, which means that more water is lost through the pores of the skin and can cause dehydration, which in turn can result in headache or dizziness. Other common side effects include headache, nausea, dizziness, runny nose, and increased sweating.

DISCUSSION

Almost all types of massage are generally considered safe with no known serious side effects. However, an inexperienced therapist can cause serious damage resulting in burns, tissue damage, and even permanent scarring [13]. Alternative methods of treatment as a non-pharmacological way of treating symptoms of certain diseases and to improve the quality of life are promoted by the World Health Organization. However, one method to be accepted by conventional medicine is to confirm the effects with measurable parameters.

Thus, when studying the effect of this therapy, we can assess pain, stress, mobility in the joint, concentration of cortisol in blood, saliva and urine, as well as before and after the application of the method, just as we do when assessing the effect of drug therapy. This method is imposed as a relaxation therapy in the Spa centers; the medical use is not included in the medical protocols [14, 15]. Massage is known to lower cortisol levels and increase endorphin levels, thus explaining the physiological action and its effect on pain, stress, and in depression it treats by increasing serotonin. Applying hot stones to specific acupuncture points can also have an effect on acupuncture [16]. Massage stimulates a series of local biochemical reactions in the body, which increase the neural activity in the spinal cord and subcortical nuclei, which has an effect on the perception of pain and fatigue. Thus massage has the potential to reduce pain, fear, and depression by increasing endorphins and serotonin [17, 18]. The application of hot volcanic stones is used all over the world, but still there are only a few studies designated as volcanic rock massage, it is more common as hot massage [19].

In one study, the circulation of the lower extremities was examined in order to assess the improvement in the application of hot stones in the groin and waist area. The effect was positive [20]. In Malaysia, 8 out of 10 women used alternative methods after giving birth. One of those methods is the application of hot stones and other methods even though the respondents had higher education [21]. The effect of cold or hot application in degenerative rheumatism was investigated and compared. Studies claim that in degenerative rheumatism with pain and swelling, the application of cold (cold massage) has a greater effect than hot massage [22, 23].

CONCLUSION

The treatment with volcanic stones is a simultaneous application of heat and massage. It is still part of the alternative massage techniques, but it is a possibility for non-pharmacological treatment of pain, stress, depression and muscle tension by an educated physiotherapist so as not to cause side effects due to excessive exposure to heat. Like any heat therapy, this one is contraindicated in acute conditions. In conventional medicine, doctor of physical medicine and rehabilitation would prescribe it like treatment with hot and massage in one modality, with all respect of knowing the common condition of health of the patient. There is a limited number of studies for the treatment of volcanic rocks only. Future research should include conventional medical methods to assess the effect of treatment such as measuring pain, fear, stress and depression.

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Citation: Elizabeta Popova Ramova (2021). Volcanic Stone Massage and Its Benefits. *South Asian Res J App Med Sci*. 3(5). N/A.