

ROLE OF MASSAGE THERAPY IN THE MANAGEMENT AND PREVENTION OF DISEASES: A CASE SERIES OF MEDICATED MASSAGE

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ABSTRACT

In this paper, authors have discussed the basic concept of massage and its mechanism of action from holistic point of view supported by modern perspective. At the end, authors described some case reports involving clinical interventions of massage therapy with different oils commonly used in Unani System of Medicine. In Unani, there are four methods of treatment viz, Regimental therapy, Dieto therapy, Pharmacotherapy and surgery. Massage is one of the most popular forms of regimental therapy and has been in use since antiquity. Massage therapy is actually the scientific mode of curing certain forms of diseases by systemic manipulations and it signifies a group of procedures which are usually done with hand on the external tissues of the body in a variety of ways either with a curative, palliative or hygienic point of view. Massage with medicated oils is indicated in a number of neurological, musculoskeletal and psychosomatic disorders for prophylactic as well as therapeutic purposes.

Key-words: Massage therapy; Dalk; Medicated oils; Regimental therapy; Unani Medicine.

INTRODUCTION

Dalk (Massage therapy) is an integral part of Unani system of medicine. The Unani System of Medicine founded by Hippocrates in 460-377 BC is based on the concept of equilibrium and balance of natural body humours (blood, bile, black bile and phlegm). The imbalance in the quality and quantity of these humours leads to diseases whereas restoration of this balance leads to health. The treatment of diseases is based on four methods viz, Ilaj bil tadabeer (Regimental therapy), Ilaj bil ghiza (Dieto therapy), Ilaj bil dawa (Pharmacotherapy) and Ilaj bil yad (surgery).¹⁻³ According to a great Unani scholar, Ibne Sina, Ilaj bil tadabeer is actually a part of tibbe amli (practical medicine) in which treatment is done by suitable modifications in asbabe sittae zarooria (six essentials), which are the hallmark of Unani tib and he has mentioned 36 regimes in his famous book Alquanoon Fit Tib (Canon of Medicine), including dalk (massage), riyazat (exercise), hijamat (cupping), fasd (veinsection), tareeqe (diaphoresis), kai (cauterization), hammam (steam bath), huqna (enema), ishal (purging), idrar (dieresis), tanfees (expectoration), irsale alq (leeching) etc. Dalk, one of the most important and widely practiced methods, is known from the time of extreme antiquity and is still alive nowadays.⁴⁻⁷ It signifies a group of procedures which are usually done with hand on the external tissues of the body in a variety of ways either with a curative, palliative or hygienic point of view. In other words we can say that massage is a healing art.^{8, 9} A typical massage technique includes three features known as triad of massage therapy, i.e. technique should apply mechanical force to the soft tissue of the body, the forces must not apply any change in the position of joint and the technique must evoke some physiological and or psychological effect which serves to achieve the therapeutic, restorative or preventive goal.^{10, 11}

CLASSIFICATION OF MASSAGE

In Unani system of medicine,⁵⁻⁷ massage is classified on the basis of khafiyat (quality) and kameyat (quantity). On the basis of quality, massage is classified into three types viz;

1. Dalk sulb (hard massage): Massage done with pressure, which makes the body firm.
2. Dalk laiyyan (soft massage): Massage done lightly, which relaxes the body.
3. Dalk motadil (moderate massage): Intermediate between dalk sulb and dalk laiyyan which, makes the body muscular.

On the basis of quantity, massage is classified into three types viz;

1. Dalk kaseer (prolonged massage): Massage done for long period of time, which makes the body thin.
2. Dalk qaleel (short duration massage): Massage done for short period of time.
3. Dalk motadil (moderate massage): Intermediate between the two.

SPECIAL TYPES OF MASSAGE

1. Dalk khishan (rough massage): Massage done with a piece of rough cloth. It draws blood briskly towards the skin. It is used in chronic skin diseases for the resolution of morbid matter
2. Dalk amlas (smooth massage): Massage done with soft hands or soft piece of cloth. It increases the flow of blood in the affected part.
3. Dalk istardad or dalk musakkin (recuperative massage): Massage is done after the end of exercise. It is actually the terminal part of exercise. It is done with some oil vigorously in the beginning and gently towards the end. Its purpose is to liquefy and eliminate the waste products which have been stagnant in the tissues and thus prevents fatigue.
4. Dalk istedad (preparatory Massage): It is a special type of massage usually done before the exercise. It starts gently and vigorously as the time of exercise approaches.

MECHANISM OF ACTION OF MASSAGE

Massage is one of the oldest forms of treatment for human ailments. In traditional system of medicine, especially in Unani system of medicine, medicated massage is indicated in a number of neurological, musculoskeletal and psychosomatic disorders as follows; falij (hemiplegia, paraplegia, quadriplegia), luqwa (facial/bell's palsy), muscular weakness, muscular dystrophy, hemiparesis, cerebral disorders, upper and lower motor neuron lesions, wajaul mufasil (Rheumatoid arthritis, Osteoarthritis), niqras (gout), Irqun nissa (sciatica), tashweesh (anxiety), sehar (insomnia), malankholia (mania), hysteria, sudda (headache) etc. Its mechanism of action is based on holistic approach of two fundamental concepts i.e Tanqiyae Mawad (Evacuation of morbid humour) and Imalae Mawad (Diversion of humour). Tanqiyae Mawad means the resolution and excretion of morbid humors and excess fluids from the body, thereby maintaining the homeostasis in the quality and quantity of four bodily humors, which is actually responsible for the maintenance of normal health. Imalae Mawad refers to the diversion of the morbid fluids from the site of affected organ to the site where

from it is easily expelled from the body tissues. It also induces sedation, analgesia and increased blood circulation.³⁻⁶

From modern perspective,⁸⁻¹¹ as therapeutic modality, massage is used for the relief of pain, swelling, muscle sprain, restricted movements, tension and anxiety associated with a large no. of disorders afflicting muscular, nervous, cardiovascular, respiratory and other systems. It is the magnitude, duration and the direction of force applied during massage that determines the effect produced on the body. Massage affects almost all systems of the body as follows;

- Increased venous and lymphatic flow, increased arterial blood flow to the muscle and skin.
- Decreased stagnation of fluid in tissues spaces.
- Increased removal of waste products of metabolism.
- Increased WBC, RBC, and platelet count in blood.
- Increased nutritive exchange between blood and cells.
- Increased trophic status of the part massaged.
- Induce sedation and decrease pain.
- Facilitate contraction in hypotonic muscles.
- Modulate autonomic responses.
- Decreased excitability of motoneuronal pool in neurologically healthy person.
- Increased removal of secretions from lungs.
- Increased gaseous exchange across pulmonary capillaries.
- Increased removal of dead cell from the skin.
- Increased activity of sweat and sebaceous glands.
- Lowers psychosomatic arousal such as anxiety and stress.
- Mobilize soft tissues and breaks soft tissue adhesions.
- Accelerates various metabolic processes by increasing arterial blood flow and venous lymphatic drainage.
- Promotes lipolysis.

CLINICAL INTERVENTIONS

CASE -1

A male patient naming A, age 60 years, farmer by occupation, resident of Magadi Bangalore, came to Outpatient department (OPD) of Moalajat, National Institute of Unani Medicine (NIUM) with the complaints of pain, swelling and difficulty of movements of left knee joint for last 2 years. There was no history of any trauma, infection, surgery or accident. He has been taking allopathic medicines but left as he developed gastric trouble. He was non-hypertensive, non-diabetic but had history of smoking since 20 years. On examination, his general condition was fair, vitals were stable (BP= 120/80 mm Hg, Pulse= 78/ min, Respiratory rate= 18/ min) with no systemic illness. Locally there was mild tenderness in left knee, crepitus and restricted movements of left knee joint but Straight Leg Raising (SLR) test was negative. Radiological examination of Knee joint revealed reduced joint space with osteophytes, thus he was diagnosed as a case of Wajual Muffasil (Osteo arthritis, OA) of left knee. Then the patient was advised Massage therapy for a period of one month. Massage (Dalk laiyyan) was done over the affected knee and leg with warm Roghane baboona (10 ml oil) for 15-20 minutes daily. The assessment of severity of symptoms and sings was done at 0 day, 15th day and 30th day, whereas the efficacy of Massage with Roghane baboona was carried out by Visual Analogue Scale (VAS). After one month, patient felt a remarkable improvement as the scores of different parameters reduced significantly ($p < 0.05$) at the end of treatment. (Table-1) This beneficial effect of massage therapy may be due to the synergistic actions of various ingredients of Roghane baboona. Roghane baboona is a well known medicated oil commonly used for pain and inflammatory conditions. The ingredients of this oil are Baboona (*Marticaria chamomilla*) and Roghan kunjad (oil of *Sesamum indicum*) which are bestowed with Mussakin (analgesic), Muhallil (anti-inflammatory) and Jazib (absorbent) properties.¹⁵⁻¹⁷

The symptomatic relief may be attributed to these pharmacological activities of oil applied locally. The overall response of massage therapy may be attributed to its holistic mechanism of Tanqiyae Mawad and Imalae Mavad from the affected joint. According to the Unani doctrine, OA is a humoral disease occurring due to accumulation of morbid humours around the joint and its surrounding tissue.^{3,4,13,14} Therefore treatment is aimed at to evacuate the morbid humours from the affected joint. When the affected knee joint was massaged with oil repeatedly, it caused the Tahalul (resolution) of morbid humors which in turn led to Tanqiyae and Imalae Mawad, consequently the symptoms disappeared.^{1, 2} This is also supported by the fact that massage increased arterial blood flow to the muscle around the joint, induced muscle relaxation and sedation that led to relief of pain and swelling as well as restoration of movements.^{11,12} From above discussion, it is concluded that a case report of OA and its management with massage with Roghane baboona gives an idea of efficacy of Unani medicine in the management of OA and other types of arthritis. Authors suggest that massage therapy should be administered in combination with other effective treatment modalities like weight normalization for obese patients, exercise therapy, dietary modification, etc for optimal result. Further large size study needs to be carried forward for evaluating the safety and efficacy of massage therapy in OA.

Table-1. Effect of Massage therapy on VAS Scores

Parameter	0 day	15 th day	30 th day
Pain	4	3	1*
Stiffness	4	2	0*
Tenderness	2	1	0*
Restricted movements	3	1	0*
Swelling	2	1	0*

* $p < 0.05$, highly significant with respect to 0 day

CASE-2

A male patient naming B, an auto driver, age 45 years, resident of Peeneya Bangalore, came to OPD of Moalajat, NIUM with known diagnosis of Faliye Nisfi (Left hemiplegia) since last 6 months as suggested by CT scan of brain. He complained of weakness of left arm and leg along with difficulty in walking. He was known hypertensive, non-insulin dependent diabetic since last 5 years, had history of smoking and alcoholism since 15 years and history of stroke 1 years back. There was no significant family history, no history of any trauma, surgery or accident. He has been taking allopathic medicines immediately after the onset of stroke, felt improvement initially but again developed the muscular weakness. On examination, he was looking ill but no pallor, no oedema, no dyspnoea, vitals (BP= 140/90 mm Hg, Pulse= 88/ min, Respiratory rate= 18/ min). Neurological examination revealed that he was conscious, well oriented with normal speech and gait but tone and power of muscles of left side was decreased. There was hypotonia and rigidity in left arm. Power of left arm was 1/5, left leg 2/5. Similarly all deep reflexes including knee jerk, ankle jerk, biceps, triceps, supinator reflexes were brisk, plantar reflex was extensor in nature but sensory reflexes were within normal limits. Locally there were no trophic changes; bladder and bowel habits were regular. Then the patient was assured first with psychotherapy as he was slightly depressed. After that he was advised Massage therapy for a period of 2 months. Massage (Dalk sulb) was done over the affected arm, leg and back with warm Roghane Seer (20 ml oil) for 20 minutes on alternate day sitting. The assessment of severity of symptoms and sings was done at 0 day, 15th day 30th, 45th and 60th day, whereas the efficacy of Massage with Roghane Seer was carried out by comparing the tone, power and movements of affected limbs before and after the treatment on the basis of "Stroke Rehabilitation Assessment of Movement" (STREAM) especially designed for evaluation of motor functions. After completion of massage therapy, patient felt a remarkable improvement in the motor

recovery as significant improvement ($p < 0.05$) was observed in voluntary movements of paralytic limb and basic mobility with overall improvement in the quality of life of patient. (Table-2) The tone /strength as well as power of muscles increased dramatically. The power increased up to 4/5 in left arm and 5/5 in left leg. Deep reflexes became normal and rigidity disappeared. This beneficial effect of massage therapy may be due to the synergistic actions of various ingredients of Roghane Seer, which is a popular oil commonly used for musculoskeletal and nervous disabilities. The ingredients of this oil are Aaqarqarha (*Anacyclus pyrethrum*), Farfiun (*Euphorbia antiquorum*), Lehsun (*Allium sativum*), Filfile siyah (*Piper nigrum*), Barge Suddab (Leaves of *Ruta graveolens*) and Roghan zaitoon (Oil of *Olea europea*) all having hot temperament and are bestowed with therapeutic properties of Mufatteh (deobstruent), Muhallil (anti-inflammatory), Musakhkhin (calorific), Muhammira (Rufeficient) and Muqawwie aasab (Nervine tonic).¹⁵⁻¹⁷ The improvement in mobility and movements may be attributed to these pharmacological activities of oil applied locally. As the oil is rubbed on the paralyzed part, the Musakhkhin and Muhammira drugs, due to their hot and irritative nature, induce vasodilatation, and increase blood circulation. The tissues receive more than usual amount of blood which supply the necessary elements to rejuvenate the paralyzed part. Farfiun and Filfile siyah are Muqawwie aasab and thus potentiate the function of the nerves enabling them to provide activity and strength in the paralyzed extremities. The overall response of massage therapy may be attributed to its holistic mechanism of Tanqiyae Mawad and Imalae Mavad from brain and nerves. According to the Unani doctrine, Faliye Nisfi is described as a Phlegmatic disease with cold temperament causing loss of sensation and movement in longitudinal half of the body.^{3, 4, 13, 14} Therefore treatment is aimed at to evacuate the morbid phlegm from the nerves and muscles of affected extremities. When the affected arm and leg was massaged with oil repeatedly, it caused the Tahalul of morbid phlegm which in turn led to Tanqiyae and Imalae Mavad consequently the humoral disruption disappeared and restoration of strength and power of muscles occurred.^{1, 2} This is also supported by the fact that massage increased arterial blood flow to the muscle and skin, facilitated contraction in hypotonic muscles, modulated autonomic responses that led to improvement in tone and power of affected muscles as well as restoration of movements.^{11, 12} From above discussion, it is concluded that a case report of left hemiplegia and its management with massage with Roghane Seer gives an idea of efficacy of Unani medicine in the management of hemiplegia and post stroke complications. Further large size study needs to be carried forward for evaluating the safety and efficacy of massage therapy in hemiplegia.

Table-2. Effect of Massage therapy on STREAM Scores

Stream score	0 day	15 th day	30 th day	45 th day	60 th day
Left arm	8	9.5	11	16	16*
Left leg	9	10	12	15	18*

* $p < 0.05$, highly significant with respect to 0 day

CASE-3

A male patient naming C, a school teacher, age 45 years, resident of Goripalya Bangalore, came to OPD of Moalajat, NIUM with the complaints of pain, stiffness and difficulty of movements of right shoulder joint for last 1 year. He was non-hypertensive, non-insulin dependent diabetic since last 5 years and had history of smoking and alcoholism since 10 years. There was no significant family history, no history of Rheumatoid Arthritis, Gouty arthritis, Osteoarthritis, any trauma, surgery or accident. He has been taking NSAIDs, felt improvement initially but left the medication as he developed gastric discomfort. He again developed the complaints. On examination, he was looking ill, with moderate built but no pallor, no oedema, no dyspnoea, vitals were stable (BP= 130/80 mm Hg, Pulse= 81/ min,

Respiratory rate= 18/ min) with no systemic illness. Locally there was tenderness in his right shoulder, restricted movements especially restriction of flexion and rotation movements but there was no muscular wasting or trophic changes. X-ray of shoulder (AP/ Lat. View) revealed no pathological changes. Based on the clinical presentation and X-ray, he was diagnosed as a case of Tahajjire Muffasil (Frozen Shoulder) of right shoulder. Then the patient was advised Massage therapy for a period of one month. Massage (Dalk laiyyan) was done over the affected shoulder and right arm with warm Roghane Gule Aak (10 ml oil) for 15 minutes daily. The assessment of severity of symptoms and signs was done at 0 day, 15th day and 30th day, whereas the efficacy of Massage therapy was carried out by Western Ontario and McMaster University (WOMAC) Score. After one month, patient felt a remarkable improvement as the scores of different parameters reduced significantly ($p < 0.05$) at the end of treatment. (Table-3) This beneficial effect of massage therapy may be due to the cumulative effect of various herbs of Roghane Gule Aak which is a famous unani herbal oil commonly used for pain, myalgia and arthritis. The ingredients of this oil are Gule aak (Flower of *Calotropis procera*), Barghe bhang (Leaves of *Cannabis sativa*), Suranjan talkh (*Colchicum luteum*), Zanjabeel (*Zingiber officinalis*) and Roghan sarshaf (Mustard oil) which are bestowed with Mussakine alam (analgesic), Muhallil (anti-inflammatory), Mukhadir (sedative), Muratib (emolient), Muqawwie aasab (Nervine tonic) properties.¹⁵⁻¹⁷ The relief in symptoms and mobility may be attributed to these therapeutic actions of oil applied locally. The overall response of massage therapy may be attributed to its holistic actions of Tanqiyae Mawad and Imalae Mawad from the affected joint. According to the Unani concept, Tahajjire Muffasil is characterized by Salabat (hardness) of joint and loss of movements, occurring due to the retention of thick morbid humours around the joint and its surrounding tissues.^{3, 4, 13, 14} Therefore treatment is aimed at to evacuate the causative humours from the affected joint. When the affected shoulder joint was massaged with oil repeatedly, it caused the Tahalul of thick retained humours which in turn led to Tanqiyae and Imalae Mawad, consequently the symptoms disappeared.^{1, 2} This is also supported by the fact that massage increased arterial blood flow to the muscles and skin around the joint, induced muscle relaxation and sedation that led to relief of pain and swelling as well as restoration of movements.^{11, 12} From above discussion, it is concluded that Roghane Gule Aak is effective for the symptomatic treatment of Frozen shoulder. Authors suggest that massage therapy should be applied in combination with other therapeutic regimes and life style modifications like exercise therapy, dietary modification, etc for better results.

Table-3. Effect of Massage therapy on WOMAC Scores

Parameter	0 day	15 th day	30 th day
Pain	12	7	3
Stiffness	10	5	1*
Tenderness	8	5	0*
Restricted movements	16	9	4*
Daily activity	26	13	5*

* $p < 0.05$, highly significant with respect to 0 day

CASE-4

A female patient naming D, a house wife, age 42 years, resident of Goripalya Bangalore, came to OPD of Moalajat, NIUM with the sleeping disturbance since last 3 years. She complained of an inability to fall sleep, difficulty in initiating/ maintaining sleep, excessive awakening during night, restlessness and headache during day. She was non-hypertensive, non-diabetic multiparous woman having four children without any gynaecological and systemic illness. There was no relevant family history, no history of any scalp injury/ trauma, fracture or accident and no history of psychological or mental disorders like depression, anxiety, Schizophrenia etc. She was not having any marital or family dispute. She has been taking

allopathic medication and felt improvement initially but later she did not respond at all. On examination, she was looking anxious, with average built but no pallor, no dyspnoea, vitals were stable (BP= 130/85 mm Hg, Pulse= 83/ min, Respiratory rate= 120/ min). There was no menstrual disturbance, her appetite was normal with regular bowel and bladder movements. Based on the clinical presentation, she was diagnosed as a case of Ibtedai Seher (Primary insomnia). Then the patient was advised Massage for a period of one month. Massage (Dalk laiyyan) was done over the scalp with Roghane Kahu (10 ml oil) for 10 minutes daily at bed time. The assessment of severity of symptoms and signs was done at 0 day, 15th day and 30th day, whereas the efficacy of Massage therapy was carried out by Pittsburgh Sleep Quality Index (PSQI) score. After one month, patient felt a remarkable improvement as the scores of different parameters reduced significantly ($p < 0.05$) at the end of treatment. (Table-4) This beneficial effect of massage therapy may be due to the cumulative effect of ingredients of Roghane Kahu which is a famous unani herbal oil commonly used for headache, anxiety, insomnia etc. The ingredients of this oil are Kahu (Lactuca Saliva), and Roghan kunjad (oil of Sesamum indicum) which are bestowed with Mussakine alam (analgesic), Mukhadir (sedative), Muratib (emolient), Munawim (Hypnotic), Mubarrid (Cold), Muqawwie dimag (brain tonic) properties.¹⁵⁻¹⁷ The relief in symptoms and mobility may be attributed to these therapeutic actions of oil applied locally. According to the Unani aspect, Ibtedai Saher is a condition characterized by sleeplessness or awakening occurring as a result of deranged brain temperament due to excess yaboosat wa harararat in brain (abnormal dryness and heat). Its treatment is done by correcting the disequilibrium of the humoural temperament through Tanqiyae and Tadeel, along with administration of diet and drugs having Murattib, Mussakin, Muqavvie dimagh etc properties, either orally or topically.^{3, 4, 13, 14} When oil was applied over the scalp repeatedly, it produced ratoobat (fluids) that nullified the excess yaboosat (dryness) in brain and as a result normal temperament was regained, consequently the symptoms disappeared. This is also supported by the fact that massage increased blood flow to the muscles and skin, induced muscle relaxation and sedation that led to the overall improvement of symptoms and restoration of normal sleep.^{11, 12} From above discussion, it is concluded that Roghane Kahu is effective for the treatment of Primary insomnia. Authors suggest that massage therapy should be applied in combination with

other life style modifications including avoidance of sedentary life, exercise, dietary modification, etc for better results.

Table-4. Effect of Massage therapy on PSQI Scores

PSQI Score	0 day	15 th day	30 th day
	18	7*	2*

* $p < 0.05$, highly significant with respect to 0 day

CONCLUSION

From above discussion, it is evident that massage may be used effectively for the management of various disorders specially musculoskeletal and nervous disorders where medical treatment is of less value. It can be used for the restoration of normal health through its prophylactic and palliative action. However it is the need of present era to develop some Standard operative procedures (SOPS) and scientific parameters so that the efficacy of massage technique can be proved in a rational and logical way.

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