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Review Article

### Dalk (Massage): An effective mode of treatment for musculoskeletal disorders

Fouzia Bashir <sup>1\*</sup>, Jamal Akhtar <sup>2</sup><sup>1</sup> Research Associate, Central Council for Research in Unani Medicine, New Delhi, India<sup>2</sup> Research Officer, Central Council for Research in Unani Medicine, New Delhi, India

#### ABSTRACT

In Unani system of medicine, there are four modes of treatment; *Ilaj Bil Ghiza* (Dietotherapy), *Ilaj Bid Dawa* (Pharmacotherapy), *Ilaj Bit Tadbeer* (Regimenal therapy) and *Ilaj Bil Yad* (Surgery). *Ilaj bit Tadbeer* includes a number of regimenal therapies such as *Hijāma* (cupping), *Ta'liq al-'Alaq* (leeching), *Fasd* (venesection), *Dalk* (massage), *Natūl* (irrigation), *Qay'* (Emesis), *Ildrār-i-Bawl* (Diuresis), *Tariq* (Diaphoresis), *Mundij* and *Mu'shil* therapy (Concoction and purgation), *Bukhoor* (medicated steam), *Kaiyy* (cauterization), *Huqna* (enema) etc. It has been extensively used for its preventive, therapeutic and rehabilitative purposes since ancient times. It causes elimination of morbid matter out of the body, thus helps in maintaining the equilibrium of humours. It has been advised in management of neurological, psychosomatic and musculoskeletal disorders. Various clinical trials have established its efficacy in musculoskeletal disorders on scientific parameters. This review paper aims to explore the basic concept, classification and its therapeutic importance in musculoskeletal disorders.

**Keywords:** *Dalk*, Massage, Unani, *Ilaj bit Tadbeer*, Musculoskeletal disorders.

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#### \*Address for Correspondence:

Fouzia Bashir, Research Associate, Central Council for Research in Unani Medicine, New Delhi, India

#### INTRODUCTION

Massage is one of the oldest forms of remedial therapy and first practiced in a structured manner in Chinese and Mesopotamian civilizations more than 5000 years ago. The art of Massage was well known to ancient Greece physicians. In 5<sup>th</sup> century BC *Buqrat* (Hippocrates) wrote that the way to health is aromatic bath and an oiled massage every day.<sup>1</sup> The word "massage" is came from Arabic word "mass" which means to touch, feel, and pressure; or from Greek word "massein" means to "knead". Hippocrates (460-375 BC) was the first person who described the uses and contraindications of *Dalk* (Massage). He realized *Dalk* (Massage) as an organized therapy. Another Unani physician, *Asclepedius* recommended *Dalk* (Massage) and physical therapy as the third most important mode of treatment. *Jalinoos* (Galen) (125- 195 AD) wrote about 16 books related to *Dalk* (Massage) and exercise and discussed these regimens in detail. <sup>2</sup> Almost all Unani eminent physicians have delineated the preventive and therapeutic aspects of *Dalk* in their treatise.

#### DALK (MASSAGE)

Massage is one of those terms, which are easily understood and expressed. Throughout the history massage has been used not only by sick but also by the healthy people for

therapeutic, restorative as well as preventive purposes; but people still find it difficult to define massage although they are confident of its meaning. *Dalk* (Massage) is a scientific way of treating some forms of disease by external manipulations, employed in a variety of ways to the soft tissues of the body <sup>3</sup>. It is also a type of manual kneading or manipulating the soft tissues to relieve pain, discomfort, stress to preserve or promote health and wellness.<sup>4</sup> In Unani medicine, *Dalk* known as massage, is a form of *Riyādat* (exercise) as a manipulative technique by means of hands on muscles. It produces *Hararat* (heat), causes *Tahallul* (dissolution) and *Riqqat* (liquidity) in accumulated *Fuzlat* (morbid matter) of the body. It strengthens the *Autar* (ligaments) and *Azlat* (muscles) and evacuates the *Fuzlah* of *Hadm Akheer* (waste metabolites) accumulated in the body. <sup>5-6</sup>

#### CLASSIFICATION OF DALK

There are four major types of *Dalk* i.e. *Dalk Sulb*, *Dalk Layyin*, *Dalk Kaseer* and *Dalk Mu'tadil*.

**a) Dalk Sulb (Firm Massage):** This is a type of massage in which firm pressure is applied while stroking with hands. This renders the body firm and strong by the virtue of

eliminating those Rutubat (moistness), which are responsible for the flaccidity of the muscles.

**b) Dalk Layyin (Gentle Massage):** This type of massage is performed with soft and slow strokes of the hand without exerting much pressure. It mainly produces muscle relaxation.

**c) Dalk Kaseer (Prolonged Massage):** This type of massage is done for longer duration to reduce body fat mass and renders the body lean and thin, helps in elimination of *Rutubat* (moisture) from the body leading to weight loss.

**d) Dalk Mu'tadil (Moderate Massage):** This type of massage is moderate in every aspect, such as stroke and duration. Thus induces better perfusion in muscles, helps in the growth and development of the body and causes moderate rise in muscle mass. *Dalk Mu'tadil* is *Mun'ish-e-Hararat-e- Ghareezi* (innate heat enhancer), causes *Talteeef* (refining) in *Akhlat* (humours) and enhances freshness of the body. <sup>4,7</sup>

#### Other Classification of Dalk (Massage)

Types	Subtypes
According to <i>Kaifiyat</i> (Quality of pressure applied)	1. <i>Dalk Sulb</i> (Firm Massage) 2. <i>Dalk Layyin</i> (Gentle Massage) 3. <i>Dalk Mu'tadil</i> (Moderate Massage) <sup>5,6,7,8</sup>
According to <i>Kammiyat</i> (Quantity of pressure applied)	1. <i>Dalk Kaseer</i> (Heavy Massage) 2. <i>Dalk Qaleel</i> (Short Massage) 3. <i>Dalk Mu'tadil</i> (Moderate Massage) <sup>6,9</sup>
<i>Dalk Murakkab</i> (Compound types of massage)	1. <i>Dalk Sulb Kaseer</i> (Firm Massage with prolong duration) 2. <i>Dalk Sulb Qaleel</i> (Firm Massage with short duration) 3. <i>Dalk Sulb Mu'tadil</i> (Firm Massage with moderate duration) 4. <i>Dalk Layyin Kaseer</i> (Gentle Massage with prolonged duration) 5. <i>Dalk Layyin Qaleel</i> (Gentle Massage with short duration) 6. <i>Dalk Layyin Mu'tadil</i> (Gentle Massage with moderate duration) 7. <i>Dalk Mu'tadil Kaseer</i> (Moderate Massage with prolonged duration) 8. <i>Dalk Mu'tadil Qaleel</i> (Moderate Massage with short duration) 9. <i>Dalk Mu'tadil Mu'tadil</i> (Moderate Massage with moderate duration) <sup>9</sup>
Special Types of <i>Dalk</i> (Massage)	1. <i>Dalk Khashin</i> (Rough Massage) 2. <i>Dalk Amlas</i> (Gentle Massage) 3. <i>Dalk Istidad</i> (Preparatory Massage) 4. <i>Dalk Istirdad</i> (Restorative Massage) <sup>5,7-9</sup>

#### SPECIAL TYPES OF DALK (MASSAGE)

**a) Dalk Khashin (Rough Massage):** In this type of *Dalk*, massage is done with a rough piece of cloth. It draws the blood speedily to the surface. This massage should not be done for longer duration as it may lead to excessive elimination of *Rutubat* (moisture) from the body. <sup>5,7-9</sup>

**b) Dalk Amlas (Gentle Massage):** It is carried out with a soft piece of cloth and increases blood flow in the treated area which makes the body firm. <sup>7-9</sup>

**c) Dalk Istidad (Preparatory Massage):** This special type of *Dalk* (massage) is done before exercise in order to prepare the body for exercise. It starts slowly and then intensified towards the end of the massage. <sup>5,7,9</sup>

**d) Dalk Istirdad/ Dalk-e-Musakkin (Restorative Massage):** This type of *Dalk* (massage) is done at the end of exercise to liquefy and eliminate the metabolic waste products left from exercise; which if retained in the tissues, can cause fatigue. This type of massage should be carried out gently and in moderation, preferably with oil. Massage should be soft in nature; vigorous, rough or hard manipulation should not be adopted specially at the end. When massage is finished, treated part should be kept in a tense and taut position so as to help in elimination of the waste products. <sup>5,7,9,10</sup>

#### TIMING OF DALK (MASSAGE)

*Unani physicians* emphasized more on the timings of massage. It is very important to know when massage has to be done for the more benefits and good results and to avoid adverse events. Timing of massage exclusively depends on the type and nature of massage. Timing of massage differs according to changes in weather; in *Mausam-e-Rabi* (spring season) and *Mausam-e- Kharif* (autumn) massage should be done at Noon; in *Mausam-e- Saif* (summer season) massage should be done in the morning; in *Mausam-e-Shita* (winter season), it should be done in afternoon. <sup>11</sup> In *Unani literature*, duration of massage is not exactly mentioned in terms of minute or hours, but it has been extensively discussed depending upon the various conditions which are as follows:

- Strength of organ
- Mizaj* of body part to be massaged
- Type of oil used
- Mizaj* of disease and person
- Condition of disease (acute, sub-acute, chronic)
- Condition of patients (obese, lean and thin, healthy)
- Seasons
- Desired outcome <sup>11,12</sup>

#### MECHANISM OF ACTION

The mechanism of action is based on two fundamental concepts i.e. *Tanqiya-e-Mawad* (elimination of morbid matter) and *Imala-e-Mawad* (diversion of morbid matter). *Tanqiya-e-Mawad* implies excretion of pathogenic *Akhlat* and excessive fluids out of the body, thereby maintaining the normal quality and quantity of four bodily humours. *Imala-e-Mawad* (diversion of morbid matter) acts through diversion of the morbid fluids from affected organ towards the normal sites, from where these matters can be easily expelled out of the body. <sup>6,7,13</sup>

#### BENEFITS OF DALK (MASSAGE)

- Tahleel-e- Mawad:** Massage easily excretes stagnant, thick and sticky *Madda* which is difficult to be excreted by *Mus'hil* (purgative).
- Only massage can detach a viscous, tenacious morbid matter which is firmly attached within the organ.
- Massage produces *Riqqat* (liquefaction) in *Ratubat-e-Badani* (body humour).
- Massage produces mild to moderate *Hararat* (Heat) in body.

- Massage alleviates Riyah (air) trapped in organs.
- **Imala-e-Mawad:** Massage is applied to divert *Madda* (morbid matter) from one point of the body to the other.
- Massage with *Roghan* (oil) produces *Rutoobat* (moisture) in the body/massaged part and thus helps in treatment of diseases induced by *Yubusat* (dryness).
- *Taskeen Alam:* Massage alleviates the pain.
- It strengthens the muscle & ligaments.
- Massage restores the atrophied organs to their normal size. [5,7,9,14]

## INDICATIONS OF *DALK* IN MUSCULOSKELETAL DISORDERS

Massage is indicated in promotion of the health as well as for curative purposes. The most common medical conditions to visit traditional and alternative medicine are back pain, neck pain, and other joint pains. Back pain is the most common cause for seeking complementary and alternative treatments.<sup>15-16</sup> *Dalk* has a great potential in alleviation of symptoms in musculoskeletal disorders and the following table delineates various indications of massage in *Unani Medicine*:

DISEASES	ROGHANIYAT (THERAPEUTIC OILS)
<i>Waja' al-Zahr</i> (Backache)	Roghane Qust, Roghane Suddab, Roghane Farfiyun, Roghane Sosan, Roghane Balsan, Roghane Baboona, Roghane Shubit, Roghane Narjeel Kuhna, Roghane Habb Utraz, Roghane Joz Kuhna, Roghane Qurtum, Roghane Arand, Roghane Habbul Ghar <sup>7,17</sup>
<i>Waja' al-Mafasil Barid</i> (Chronic Arthritis due to cold temperament)	Roghane Sosan, Roghane Qust, Roghane Nardin, Roghane Narjeel, Roghan e Nargis, Roghan e Chameeli Safaid, Roghane Arand, Roghane Sumbul, Roghane Hanzal, Roghane Jundbedastar, Roghane Khardal, Roghane Jouz Rumi <sup>7,21,26</sup>
<i>Waja' al-Mafasil Yabis</i> (Arthritis due to dry temperament)	Roghane Badam, Roghane Kaddu, Roghane Gul <sup>23</sup>
<i>Waja' al-Mafasil Balghami</i> (Chronic Arthritis due to phlegm)	Roghane Dhatoora, Roghane Hina, Roghane Auraq (Roghane Haft Barg), Roghane Bed Anjeer, Roghane Nardeen, Roghane Qust, Roghane Badam Talkh, Roghane Harmal, Roghane Naranj, Roghane Baboona, Roghane Shubit, Roghane Sumbul <sup>17,20,23-24</sup>
<i>Waja' al-Mafasil Saudawi</i> (Chronic Arthritis due to black bile)	Roghane Sosan, Roghane Qust, Roghane Bed Anjeer, Roghane Qurtum, Roghane Baboona <sup>[17,20,23]</sup>
<i>Waja' al-Mafasil Reehi</i> (Arthritis due to accumulation of Riyah)	Roghane Biskhapra, Roghane Gul, Roghane Kunjad, Roghane Baboona, Roghane Zanjabeel, Roghane Shubit <sup>17,19,23</sup>
<i>Tahajjur 'al-Mafasil</i> (Ankylosing arthritis)	Roghane Biskhapra, Roghane Baboona, Roghane Chobchini, Roghane Sosan <sup>7,17,21,24</sup>
<i>Waja' al-Warik Barid wa Murakkab</i> (Coccydynia)	Roghane Shubit, Roghane Farfiyun, Roghane Handaqooqi, Roghane Arand, Roghane Qust, Roghane Aaqarqarha, Roghane Hina, Roghane Jundbedastar <sup>17,23-24</sup>
<i>'Irq al-Nasa</i> (sciatica)	Roghane Qust, Roghane Farfiyun, Roghane Aaqarqarha, Roghane Hina, Roghane Jund Bedaster, Roghane Kalonji, Roghane Khardal, Roghane Sosan, Roghane Shubit, Roghane Gul, Roghane Kunjad, Roghane Sumbul, Roghane Chameeli, Roghane Rai Bel, Roghane Zaitoon, Roghane Nardeen, Roghane Narjeel, Roghane Hanzal <sup>7,17,21,23-28</sup>
<i>Niqris Barid</i> (Chronic Gout due to cold temperament)	Roghane Sosan, Roghane Sumbul, Roghane Ghar, Roghan Suddab, Roghane Hanzal <sup>17-18, 28</sup>

In *Unani* system of medicine, diseases took place due to alteration in *Mizaj-e-Tabai* (Normal temperament) of the body. Any change in normal temperament of the body to abnormal temperament is known as *Su'-e-Mizaj* (ill-temperament). *Su'-e-Mizaj* is divided into two types: *Su'-e-Mizaj Sada* and *Su'-e-Mizaj Maddi*. *Su'-e-Mizaj Sada* involves an alteration in *Mizaj* only without involvement of *madda* (substance or matter); while, *Su'-e-Mizaj Maddi* (abnormal substantial temperament) involves imbalance in both, *Mizaj* and *Madda*. *Su'-e-Mizaj Sada* is treated by returning the *Su'-e-Mizaj* (ill-temperament) to *Mizaj-e-Tabai* (Normal temperament) by the means of specific drugs and regimen. In *Su'-e-Mizaj Maddi* (abnormal substantial temperament) treatment starts with evacuation of abnormal *Khilt/ Madda* (Humour) after that specific *Tadabeer* (regimen) should be used according to nature of the disease. First, *Roghaniyat* (medicated oils) should be used in the diseases of *Su'-e-Mizaj sada*, but in cases of *Su'-e-Mizaj Maddi*, *Roghaniyat* (medicated oils) should be used after evacuation of morbid matter. In *Unani* medicine, basic principle for the treatment of the disease is *Ilaj Bil Zid* (Heteropathy). Hence, for *Haar Amrad* (Hot temperament diseases) *Barid Roghaniyat* (cold temperament oils) should be used, and for *Barid Amrad* (cold temperament diseases), *Haar Roghaniyat* (Hot temperament oils) should be used. <sup>5,6</sup>

## SCIENTIFIC STUDIES

Various studies have been conducted which have proved the effectiveness of *Dalk* (massage) in musculoskeletal disorders and its related symptoms.

- Arshid *et al.* reported the efficacy of *Dalk Layyin* with Roghan Zaitun in *Waja' al-Zahr* (Backache). <sup>29</sup>
- Cherkin *et al.* in a RCT found that both relaxation and structural massages are treatment of choice in chronic low back pain. <sup>30</sup>
- Furlan *et al.* in a systemic review detected the efficacy of massage in subacute and chronic nonspecific Low Back Ache. <sup>31</sup>
- Majchrzycki *et al.* in a Prospective Randomized clinical Trial found that Deep tissue massage in chronic Low Back Ache patients had been effective due to pain alleviation. <sup>32</sup>
- Gufran *et al.* reported efficacy of *Dalk Layyin* (soft massage) with *Roghane Gule Aakh* in alleviating pain, difficulty and tenderness associated with Cervical Spondylosis. <sup>33</sup>



- Kong *et al.* reported that massage therapy is an effective intervention that produces immediate relief in neck and shoulder pain.<sup>34</sup>
- Lone *et al.* reported the potential effects of *Roghane Gule Aakh* in the treatment of *Tahajjur-e-Mafasil* (frozen shoulder).<sup>13</sup>
- Furlan *et al.* in a meta- analysis found that Massage in acute/ sub acute nonspecific Low Back pain had significantly better results in alleviation of pain and disability compared to no treatment or placebo. They also noted that massage in comparison to exercise significantly improved disability in chronic and nonspecific pain.<sup>35</sup>
- Perlman *et al.* found that massage therapy is efficacious and well tolerated in Osteo Arthritis of the knee and its beneficial effects persist for weeks after cessation of the treatment.<sup>36</sup>
- Anderson *et al.* suggested that massage is beneficial as a conjunctive therapeutic treatment in Rheumatoid Arthritis patients.<sup>37</sup>
- Singh *et al.* found that massage plays a vital role in improving the signs and symptoms of sciatica.<sup>38</sup>

## CONCLUSION

Massage has been a method of treatment for centuries and gaining popularity. It holds an important place as a therapeutic modality in *Unani* Medicine. Preventive and Therapeutic massage is the mainstream treatment of *Unani* medicine since centuries and it is being indicated for range of musculoskeletal diseases since then. Although the *Unani* writings contain observation based but scattered sayings about massage, their apparent simplicity hides deep healing wisdom that only becomes apparent after years of experience in massage therapy. In this article simply basic information of massage like definition, type and indication of massage has described, but this therapy still need more observational trials so as to it can be standardized and its rational use can be justified more profoundly. Lastly, by incorporating *Dalk* (massage) in our day to day life, we will have a better quality of life without pain.

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