

DALK OR MALISH (MASSAGE THERAPY): APPLICATION AND BENEFITS IN THE PERSPECTIVE OF UNANI REGIMENAL THERAPY

Abstract

‘Ilāj bi’l Tadbīr (Regimenal therapy) is a type of treatment which is given in the form of various regimes which have been utilized for preventive as well as therapeutic measures for thousands years back by ancient Unani physicians. The eminent Unani scholars, *Ibn Sina*, *Zakariya Razi*, *Akbar Arzani* etc. have mentioned various regimes in their classical books, they are *Dalk* (massage or friction), *Hammām* (Turkish bath), *Hijāma* (cupping), *Natūl* (liquid dripping therapy), *Riyādat* (exercise), *Takmīd* (fomentation), etc. The purpose to use of these regimes is to maintain cellular homeostasis by regulating various metabolic pathways. Now this therapy is gaining popularity due to its tremendous results in treating various chronic diseases. *Dalk* (Massage) is one of the important regimes utilized for various benefits. It promotes immune homeostasis and longevity, alleviates aging, age-related disorders, and beneficial in autoimmune disorders. The mechanisms, by which this is effective in several diseases is still not completely understood, but it is known that neuro-endocrine and immunological responses are involved, leading to anti-inflammatory, analgesic, relaxant and antioxidant effects in different pathological conditions. According to various studies Massage therapy is found very effective for treating several ailments, e.g. headache, insomnia, melancholia, neuralgia, arthralgia, hemiplegia, backache etc., but it is observed that this is much beneficial when used as adjuvant with pharmacotherapy and dietotherapy. In this review *Dalk* or Massage procedure is mentioned with its definition, aims and

Authors

Mohd Afsahul Kalam

Research Officer Unani
Regional Research Institute of Unani
Medicine Srinagar.
Central Council for Research in Unani
Medicine, New Delhi
Ministry of Ayush, Government of India,
India.

Irfat Ara

Research Officer Unani
Regional Research Institute of Unani
Medicine Srinagar.
Central Council for Research in Unani
Medicine, New Delhi
Ministry of Ayush, Government of India,
India.

Towseef Ameen Rafeeqi

Research Officer Biochemistry Regional
Research Institute of Unani Medicine,
Srinagar.
Central Council for Research in Unani
Medicine, New Delhi
Ministry of Ayush, Government of India,
India.

objectives, standard operative procedures, therapeutic applications, complication and contraindication etc.

Keywords: Unani Medicine; Ilāj Bi'l Tadbīr; Regimenal Therapy; Dalk; Massage; Analgesic, Antioxidant

I. INTRODUCTION

Dalk is an Arabic word which means massage. The word “Massage” is also taken from Arabic word “*Mass*” and some says that it was from the Greek word “*Massein*” which means “to knead”. The Hebrew word “*Mashesh*” is also means “to touch, to feel, to grasp”. In Ayurvedic Medicine massage is known as “*Champan*”, “*Mardan*”, “*Abhayanga*” and “*Makesh*” means “to strike, to press”. (Malik I et al. 2013) In the past, a male massage practitioner might have been called a *masseur* (ma-SUR), and a female practitioner a *masseuse* (ma-SOOS). Today, most professionally trained men and women prefer to be called massage practitioners or massage therapists. (Mark FB 2010) *Dalk* or Massage is a systematic manipulation of body tissue with the hands or tools using oil or without oil. It is widely practiced method used for prevention of diseases, restoration of health and all therapeutic purpose. History of *Dalk* (massage) is back to the starting of human civilization. In *Babylon* and *Assyria* massage was used to expel waste product from the body of a patient. Hippocrates (460BC-370BC) mentioned that fresh air, balanced diet, massage, exercise and rest are essential for maintenance of health. In 1st Century, *Roman* physician *Celsus* wrote a book “*De Medicine*”, in 7th volume of the book he clearly describe the use of massage and rubbing for the prevention and therapeutics of some ailments (Ahmad I 1983). Galen mentioned 9 forms of massage and each of which had its own indication. (Sinha 2001) *Majusi* has mentioned about the preventive and curative aspects of *Dalk* (Massage) in his book *Kamil al-Sana'a*. (Majusi AA 1889) *Ibn Rushd* has told that, massage is a type of exercise which is used for removal of toxins or waste metabolites from the body and is very important regimen for several neurological and musculoskeletal diseases. Unani physicians included *Dalk* in the category of *Riyādat* (Exercise), due to its ability to liquefy *Ruūbāt-i-Badan* (body fluids), liquefy *Akhlā-i-Fāsida* (morbid humours), to create *Laiḥ Harārat* (heat) in the body, and to strengthen ligaments, tendons and muscles same as *Riyādat* (Ibn-Rushd 1987) or in other words it can be say that, *Dalk* (massage) is a special type of exercise or movement which can be applied to a particular organ without involving the whole body, with the same beneficial effects like exercise.

In 16th Century *Fabricus-Ab-Aquapendente*, the tutor of William Harvey, gave the term “Kneading” in his book on massage for the first time, in which he warmly recommended the use of massage as a rational therapy for joint affection. The term “massage” was first used in India during 1761-1763 by the French colonists and then they included it in a French- German dictionary in 1812 AD. According to Oxford dictionary the word “massage” entered in the English literature in 1879 AD. (Khan AA et al. 2013) Various definitions of massage have been given from time to time. Some of the definitions are given bellow:

A massage is described by the American Massage Therapy Association (AMTA) as:

"Manual soft tissue manipulation, holding, producing movement, and/or providing pressure to the body." (Anonymous 2013)

“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”. (Cook et al.,1998)

"Massage is the systemic mode of curing certain forms of disease by systemic manipulation"-by *Murrel*;

"Massage signifies a group of procedures, which are usually done with hand on the external tissue of the body in a variety of ways either with a curative, palliative or hygienic point of view"-by *Graham* ;

Massage is a healing art (Cassar and Hadson 2006).

II. CLASSIFICATION OF *DALK* (MASSAGE) ACCORDING TO UNANI MEDICINE

Various types of *Dalk* (massage) are recommended in Unani System of Medicine.

According to *Ibn-Rushd* *Dalk* is classified into 6 types (3 on the basis of *Kayfiyat* (quality) and 3 on the basis of *Kammiyat* (quantity) (Kabiruddin YNM)

1. On the basis of *Kayfiyat* (quality) the classification is as follows:

- *Dalk Şulb* (Firm massage)
- *Dalk Layyin* (Gentle massage)
- *Dalk Mu'tadil* (Moderate massage)

2. On the basis of *Kammiyat* (quantity) the classification is as follows:

- *Dalk Kathīr* (Heavy massage)
- *Dalk Qalīl* (Short massage)
- *Dalk Mu'tadil* (Moderate massage)

3. *Murrah* (compound) types of *Dalk* on the Basis of *Kayfiyat* (quality) and *Kammiyat* (quantity)

There 9 types of compound *Dalk* are mentioned on the basis of *Kayfiyat* and *Kammiyat*. (Arzani YNMa)

- *Dalk Şulb-i-Kathīr* (Firm and heavy massage)
- *Dalk Layyin-i-Kathīr* (Gentle but heavy massage)
- *Dalk Mu'tadil* (Moderate but heavy massage)
- *Dalk Şulb-i-Qalīl* (Firm but short massage)
- *Dalk Layyin-i-Qalīl* (Gentle and short massage)
- *Dalk Mu'tadil* (Moderate and short massage)
- *Dalk Şulb-i-Mu'tadil* (Firm and moderate massage)
- *Dalk Layyin-i-Mo'atadil* (Gentle and moderate massage)
- *Dalk Mu'tadil Mu'tadil* (Moderately moderate massage)

4. Other types of *Dalk*

- ***Dalk Khashin* (Rough massage):** Here massaging is done with a rough piece of cloth. It draws the blood rapidly to the surface. It should not be done for longer duration otherwise it leads to excessive elimination of *Rutūbat* from the body.

- ***Dalk Amlas (Smooth massage)***: Gentle massage carried out with soft hand or soft piece of cloth. It draws and retains the blood flow in the muscle and skin of the treated area.
- ***Dalk Isti'dād***: This special type of massage is done before exercise in order to prepare the body for undergoing different movements during exercise. It is done gently at beginning and gradually towards the finish to make waste product easily expellable when exercising (Ibn-Sina 2007).
Sub-type of *Dalk Isti'dād*
 - *Dalk Qawī, Dalk Ḍā'if, Dalk Mo'atadil*
 - *Dalk Tawīl, Dalk Kathir, Dalk Mo'atadil*
- ***Dalk Istirdād***: This *Dalk* is done at the end of exercise and is also known as *Dalk Musakkīn*. Its purpose is to liquefy and eliminate the waste products, which is retained after exercise in the tissue. This type of massage should be carried out gently and preferably with oil. It should never be done vigorously, roughly or hardly at the end, as it would harden the body (Arzani A YNMA, Arzani A YNMB).

5. Classification of Therapeutic Massage (Qadir A 2001, Cassar and Hadson., 2006, Hollis M 1998)

On the basis of character

- **Stroking Manipulation**: Superficial and Deep
- **Pressure Manipulation**
 - Kneading: it includes palmar kneading, digital kneading and ironing reinforced kneading.
 - Petrissage: it includes, lifting away skin, wringing, Skin rolling.
 - Friction: it includes circular friction and transverse friction.
- **Percussion/Tapotment Manipulation**: It includes clapping, hacking, tapping, beating, pounding, tenting, and contact heel percussion.
- **Vibratory Manipulation**: It is done by vibrations and shaking.
- **On the basis of depth of Tissue Approached**: Light, Deep
- **On the basis of part of Body Massaged**: General, Local
- **On the basis of Application of Pressure**: Manual, Mechanical massage

III. MECHANISM OF ACTION

The effects of *Dalk* is based on *Tahlīl-i-Mawād* (dissolution of morbid humours), *Taghziya* (Nutrition) and dispersion of *Fuḍlāt* (Morbid matters) into tissue spaces. Every diet has some *Fuḍlāt* after the process of digestion, *Tab'iyat* acts upon this and tries to eliminate through nearest possible channel in the form of *bawl* (urine), *barāz* (feces), *arq* (sweat), *balgham* (sputum) etc. After *Haḍm 'Uḍwi* a very *Raqīq Fuḍla* formed which is not eliminated completely but accumulates into *A'da-i-Rikhw* like joint, muscles etc. that may be the predisposing factor for so many diseases. *Dalk* helps in removal of these *Fuḍlāt* for promotion or restoration of health. It also increases circulation for better nutrition and function of the organ. Through *Imāla-i-Mawād*, the morbid material is diverted from important organs like brain, heart, liver etc. to organ of lesser importance to safeguard these

important organs from deleterious effects of obnoxious matters. (Ibn-Sina 2010, Kabiruddin YNM, Jurjani 2010)

IV. AIMS AND OBJECTIVES OF *DALK* (MASSAGE)

1. ***Tahlīl-i-Mawād* (To resolve the inflammation):** It removes or excretes thick, stagnant, and sticky, viscous, tenacious matters from the body which are not excreted by Mushiil (purgative) drugs. (Kabiruddin 2015)
2. ***Tarqīq-i-Mawād* (Liquefaction of body humours):** Massage produces liquefaction in body humours. (Kabiruddin 2015)
3. ***Taskhīn-i-Badan* (To warm the body):** Massage produces mild to moderate *Harārat* (heat) in body. (Kabiruddin 2015)
4. ***Tahlīl-i-Riyāh* (To resolve the gaseous matters):** Massage alleviates *Riyāh* (air) trapped in organs. (Kabiruddin 2015)
5. ***Imāla-i-Mawād* (Diversion of morbid matter):** Massage is applied to divert *Mādda* (morbid matter) from one point of the body to the other. (Kabiruddin 2015)
6. ***Taskīn-i-Waja'* (Reducing or eliminating pain):** Massage alleviates the pain. (Kabiruddin 2015)
7. ***Taskhīn-i-Badan* (To warm the body).** (Kabiruddin 2015)
8. ***Tal'īn-i-Jild* (Moistening of skin):** Massage with *Roghan* produces *Rutūbat* (moistness) in the body (Arshad MJ & Asjad M 2017) or massaged part and thus helps in treatment of diseases caused by *Yubūsat* (dryness).
9. ***Taqwiyat-i-Aḍalāt wa Ribā'i* (strengthening of muscle and ligaments):** It strengthens the muscle & ligaments.
10. To restore the atrophied organs to their normal size. (Hamdani 2004, Hamdani 2006)
11. ***Taqwiyat-i-A'sāb* (To strengthen the nerves).** (Hamdani 2004, Hamdani 2006)
12. ***Jazb-i-Shahmiyāt* (To absorb fat into skin and tissues)** (Hamdani 2004, Hamdani 2006)
13. ***Tahaffuz-i-Jild* (To protect the skin)** (Hamdani 2004, Hamdani 2006)
14. To Improve joint mobility (Mahmooda B et al. 2016)
15. To Improve circulation (Arshad MJ & Asjad M 2017)
16. To Improve lymphatic drainage (Mahmooda B et al. 2016)
17. To reduce muscular spasm and cramping (Mahmooda B et al. 2016)
18. To regulate weight gain in premature infants. (Mahmooda B et al. 2016)
19. Pregnancy and labor support: In females, who are given massage therapy during the delivery, shows less agitation, faster delivery and less postpartum psychosis. (Mahmooda B et al. 2016)
20. Post-surgical rehabilitation. (Mahmooda B et al. 2016)

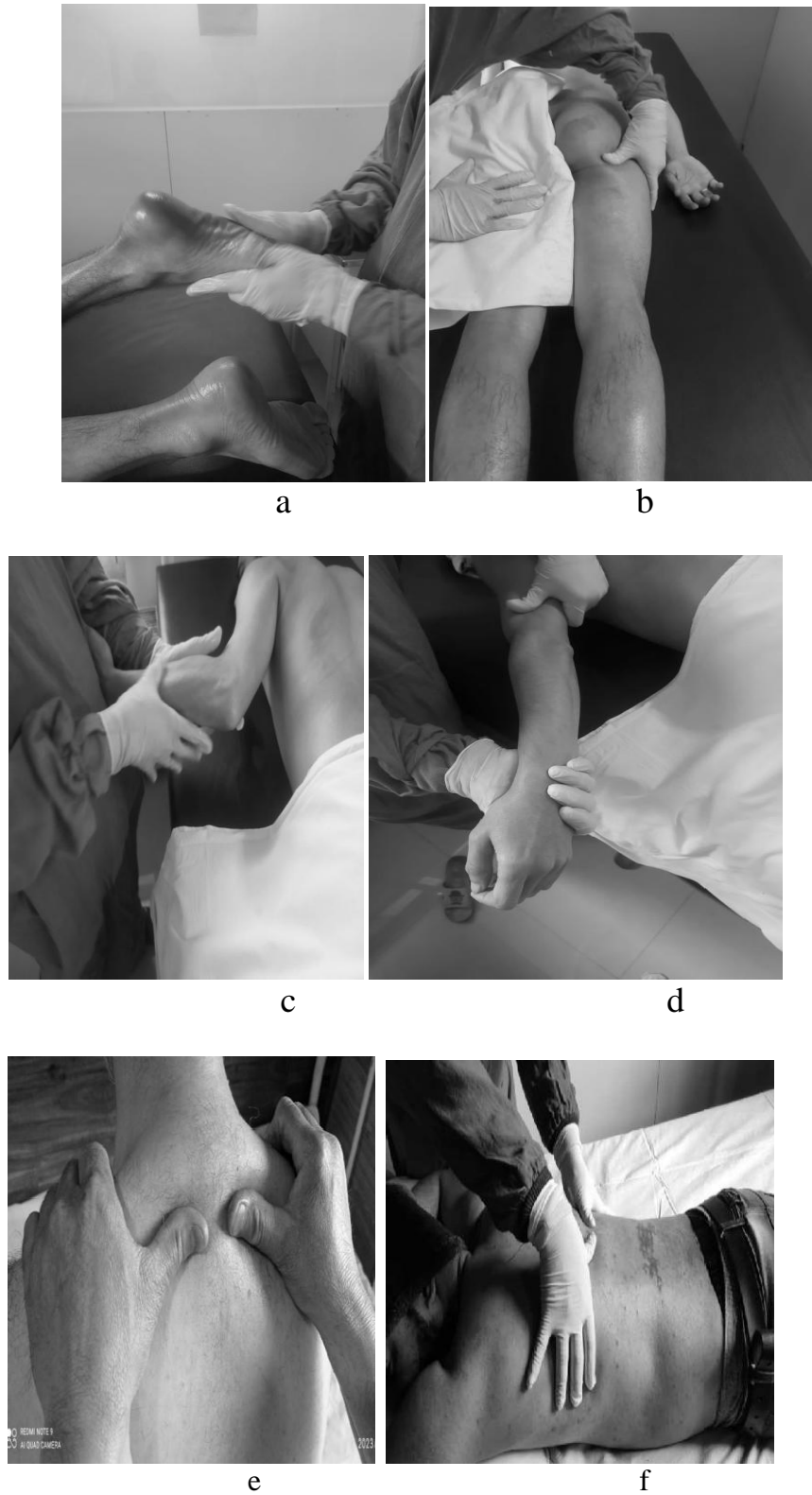


Figure1: *a.,b.,c.,d.e, and f* showing massage of different parts of the body

V. MATERIALS AND EQUIPMENT REQUIRED

1. Massage place/cabin (maintained with required temperature depending of the season) (Malik I et al. 2013)
2. Wooden Massage Table (6-7x 2 feet) (Sinha 2001)
3. Oil for massage (Ibn-Sina 2010, Kabiruddin YNM, Jurjani 2010)
4. Thick rubber sheet (Sinha 2001)
5. Pan and Induction heater for heating the oil.
6. Soft wet towel for cleaning the body.

VI. STANDARD OPERATIVE PROCEDURE OF *DALK* (MASSAGE)

1. Pre-procedure

- Check vitals and note it in Case Record Form (CRF)
- Procure suitable oil (either hot or cold as required) for massage
- Select the part to massage
- The oil should be warm not more than 41⁰C

2. During Procedure

- Ask the patient to lie down on the massage table in supine position. (Johari H 2000)
- Full body Massage should start from the soles of the feet and move towards the heart. (Johari H 2000)
- Massage the legs, arms, chest, abdomen, back and hips in that order. (Johari H 2000)
- Massage of head neck, face, should be done in sitting position. (Johari H 2000)
- Massage is done applying friction or pressure, rubbing, stroking, kneading, pounding, tapping, vibrating or stimulating the external soft part of body with rough cloth or soft cloth or hands without or with medicated oils, creams, ointment till skin becomes red.
- For neck & Shoulder massage- Place a hand on either shoulder in the classic massage position.
 - Knead the thumb deep into the muscle of the shoulders. (**Fig. 1.e**)
 - Use the finger for grip, but don't press them into the collar bone as this can be painful. (**Fig. 1.e**)
 - After finishing shoulder massage use the press and release technique to massage along the neck, all the way to the hairline. Remember to keep your hands on either side of the spine.
 - Now move around to stand in front of your client's head, so their shoulders are facing you. Make a fist with each hand, and then rub the knuckles gently but firmly across the tops of the shoulders and over the back of the neck.
- For feet Massage-Start Massaging the soles of the feet by wrapping both hands around the foot, (**Fig. 1.a**) as this area tends to accumulate a lot of tension.
- Toes should be grabbed individually with gentle pull.

3. Post Procedure

- Clean the oil from body with hot wet towel.
- Stay for some time in massage room.
- Avoid the cold temperature of outer side for some time.
- Check vitals and note it in CRF again.

VII. TIMING AND DURATION OF MASSAGE

The timing and duration of massage depends on the different types of disease, age of the patient, season, and oil applied.

1. **Timing:** According to Ibn-i-Rushd, the timing for massage is same as for exercise. Thus, according to his concept, the timing is mentioned in respect to Season as follows: (Tanwir et al. 2013)

- | | |
|---|------------|
| • <i>Mawsam-i-Rabi'</i> (spring season): | Noon |
| • <i>Mawsam-i-Şaif</i> (summer season): | Morning |
| • <i>Mawsam-i-Kharīf</i> (autumn season): | Noon |
| • <i>Mawsam-i-Shita</i> (winter season): | After noon |

But most suitable time for massage is early in the morning between 5-9 a.m. and in the evening between 4:30-6 p.m.

2. Duration

- Massage for about 30-45 minutes. It may differ with the age of patient. (Johari H 2000)
- New Born babies should be massaged 15 minutes daily. (Johari H 2000)
- Children up to 4 years should be massaged for 20 minutes. (Johari H 2000)
- Youth and adults should be massaged for 30 minutes. (Johari H 2000)
- In old people massage should be done for 30 minutes. (Johari H 2000)
- In healthy individuals with no pains, massage for relaxation is typically performed for 30-45 minutes.
- In cases of pains and aches, the duration of massage may be longer.
- In physically weak individuals, the massage may start with 15-20 minutes and gradually increase to 30-35 minutes.
- For individuals who are habitual to massage, daily sessions may last for 25-30 minutes.

VIII. SOME BENEFICIAL MASSAGE OILS WITH THEIR ACTION AND USES

(Kabiruddin 1935, Anonymous 1993, , Amanullah et al 2011)

Table 1

Sl.No	Name of oils	Action	Used
1.	<i>Roghan Azārāqī</i>	Anti-inflammatory, Nerve stimulant	Arthralgia
2.	<i>Roghan Babūna</i>	Anti-inflammatory	Arthralgia
3.	<i>Roghan Banafsha</i>	Moisturizer	Insomnia
4.	<i>Roghan Chaharbag</i>	Anti-inflammatory	Arthralgia
5.	<i>Roghan Haftbag</i>	Analgesic, Nerve tonic	Hemiplegia, Arthralgia
6.	<i>Roghan Kaddu</i>	Moisturizer	Insomnia
7.	<i>Roghan Kahu</i>	Somniferous	Insomnia
8.	<i>Roghan Khashkhāsh</i>	Analgesic, sedative	Insomnia
9.	<i>Roghan Labub Sab'a</i>	Moisturizer	Insomnia
10.	<i>Roghan Mom</i>	Analgesic	Neuralgia
11.	<i>Roghan Malkangani</i>	Nerve Tonic	Hemiplegia, Bell's palsy,
12.	<i>Roghan Qust</i>	Nerve Tonic	Hemiplegia
13.	<i>Roghan Shibbat</i>	Anti-inflammatory	Cervical spondylosis
14.	<i>Roghan Sir</i>	Anti-inflammatory, Nerve Stimulant	Hemiplegia, Arthralgia
15.	<i>Roghan Surkh</i>	Anti-inflammatory	Sciatica, Hemiplegia, Arthralgia

IX. BENEFITS OF DALK (MASSAGE) IN VARIOUS DISEASES**Table 2**

S.N	Disease	Application of Dalk (Massage)
A. Amrād-i-Rās-o-A'sāb wa Dimāgh (Diseases of Head, Nerve and Brain)		
1	<i>Bekhwābī</i> (Insomnia)	1. Massage on the sole with milk mixing with the paste of <i>Tukhm-i- Khashkhāsh</i> and Cannabis leaves is useful to induce sleep. (Khan A 1983) 2. <i>Roghan Kahu</i> & <i>Roghan Labub Sab'a</i> mixed in equal quantity is massaged on head to induce sleep (Khan A 1983) 3. Massage with goat milk or <i>Roghan Badam</i> also induces sleep (Khan A 1983)
2	<i>Dawār</i> (vertigo)	1. Massage with <i>Roghan Labub Khamsa</i> prepared with <i>Tukhm Kahu</i> , <i>Tukhm Kaddu</i> , <i>Tukhm Khashkhāsh</i> and <i>Tukhm Tarbūz</i> is done for the treatment of vertigo (Imam G 2001)
3	<i>Fālij</i> (Hemiplegia)	1. Massage the affected part with <i>Roghan Qust</i> and <i>Roghan Aqir Qarha</i> (Razi Z 1999, Razi Z 1997)

4	<i>Ikhtilāj</i> (Fasciculation)	1. Massage the affected part with <i>Roghan Farfiyūn</i> and <i>Aqir Qarha</i> (Razi Z 1997)
5	<i>Istirkha</i> (Flaccidity)	1. Massage with <i>Roghan Istirkha</i> or <i>Roghan Dārchīnī</i> over affected part. (Khan MA 2011) 2. Massage with <i>Roghan Sosan</i> and <i>Roghan Nargis</i> (Razi Z 1997)
6	<i>Jamūd wa Shakhūsh</i> (Catalepsy)	1. Massage with oil prepared with <i>Roghan Sudāb</i> , <i>Roghan Khīrī</i> , <i>Roghan Marzanjosh</i> and mixing <i>Jund Bedastar</i> a little bit is said to be useful for this condition (Jurjani 2010)
7	<i>Khadar</i> (Paraesthesia)	1. Massage the affected part with <i>Roghan Farfiyūn/Qust</i> by mixing <i>Jund Bedastar</i> and <i>Aqir Qarha</i> in it. (Jurjani 2010)
8	<i>Laqwa</i> (Bell's palsy)	1. Massage the face with <i>Roghan Qust</i> , <i>Roghan Nardīn</i> , <i>Roghan Akhrot</i> or <i>Roghan Aqir Qarha</i> (Razi Z 1997) 2. Massage of oil prepared with <i>Roghan Gul</i> , <i>Roghan Mūrad</i> , adding a little bit vinegar (Jurjani 2010)
9	<i>Mālīkhūliyya</i> (Melancholia)	1. Massage the head with goat milk or <i>Muraḥib Roghaniyāt</i> like <i>Roghan Kāhū</i> , <i>Roghan Kaddu</i> , <i>Roghan Labūb Sab'a</i> etc. (Khan A 1983)
10	<i>Mirgī</i> (Epilepsy)	1. Start massage on the temporal bone with the help of rough cloth and gradually move toward lower limb finally to calf muscle. (Khan MA 2011) 2. If it associated with menstrual disorders massage the scalp with <i>Roghan Banafsha</i> or <i>Roghan Sosan</i> (Khan A 1983)
11	<i>Nisyān</i> (Amnesia, Alzheimer)	1. Massage the whole head with <i>Roghan Badam</i> , <i>Roghan Khashkhāsh</i> , <i>Roghan Kahu</i> , <i>Roghan Kaddu</i> one by one (Kabiruddin 1935) 2. Massage with <i>Roghan Bādām</i> or <i>Roghan Labūb Sab'a</i> (Khan A 1983)
12	<i>Rā'shā</i> (Tremor)	1. Massaging with <i>Roghan Biskhapra</i> is very effective in <i>Ra'sha</i> (Ibn-Sina 2010) 2. Mix small amount of vinegar in <i>Roghan Gul</i> and <i>Roghan Mūrad</i> and massage on head (Jurjani 2010)
13	<i>Sakta</i> (Stroke)	1. Massage of palm and sole is useful in this condition. <i>Roghan Shifa</i> is also effective for this (Khan A 1983)
14	<i>Shaqīqa</i> (Migraine)	1. Massage of the lower limb & calf muscle is beneficial 2. Massage with <i>Roghan Kāhū</i> and <i>Roghan Khashkhāsh</i> on affected side of head (Majusi AA 1889) 3. Take juice of fresh root of <i>Satāwar</i> , cook it with equal quantity of sesame oil till water evaporated and then massage the oil on scalp (Jurjani 2010)
15	<i>Suda'</i> (headache)	1. Massage with <i>Roghan Babūna</i> is useful, if headache occurs due to external cold causes (Ibn-Zohr 1936) 2. Massage the scalp with hot oil (Tabri R 2002) 3. Headache which occurs due to <i>Du'f-i-Dimāgh</i> can be cured by massage of <i>Roghan Bādām Roghan Khashkhāsh</i> on scalp (Kabiruddin 1935)

16	<i>Waja' al-A'sab</i> (Neuralgia)	1. Massage with <i>Roghan Sosan</i> and <i>Roghan Ghār</i> is effective to alleviate neuralgic pain (Razi Z 1997)
B. Amrāḍ-i-Ri'a wa Qalb (Diseases of lungs and heart)		
1	<i>Dhāt al-Janb</i> (Pleurisy)	1. Add 3g camphor in <i>Roghan Gul</i> 20g and apply it on the chest (Khan A 1983) 2. Add <i>Roghan Gul</i> in warm water and apply it on chest (Jurjani 2010)
2	<i>Dhāt al-Ri'a</i> (Pneumonia)	1. Take 5 g wax and heat it with <i>Roghan Gul</i> 10g, and apply on chest (Kabiruddin 1935)
3	<i>Dīq al-Nafas</i> (Asthma)	1. Massage the chest with <i>Roghan Sosan</i> , <i>Roghan Ghār</i> , <i>Roghan Shibbat</i> , <i>Roghan Sudāb</i> or any hot oil (Razi Z 1998)
4	<i>Fuwāq</i> (Hiccup)	1. Add <i>Mastagi</i> in <i>Roghan Gul</i> and apply it on epigastric region (Razi 1998)
5	<i>Naftḥ al-Dam</i> (Haemoptysis)	1. Add <i>Murmakkī</i> and <i>Kundur</i> in <i>Roghan As</i> and apply it on the chest (Majusi AA 1889)
6	<i>Surfa</i> (cough)	1. If, cough occurs due to cold then massage with hot oils like <i>Roghan Sosan</i> , <i>Roghan Nargis</i> , <i>Roghan Qust</i> on chest is useful (Tabri R 2002) 2. If it occurs due to dryness then massage with <i>Roghan Gul</i> on chest (Tabri R 2002)
C. Amrāḍ-i-Nizām-i-Haḍm Jigar wa Tiḥāl (Diseases of GIT, Liver and Spleen)		
1	<i>Qūlanj</i> (Colitis)	1. Massage with <i>Roghan Qust</i> on abdomen shows good result (Khan A 1983) 1. Soft massage on calf muscle also provides good result in <i>Qūlanj Bārid</i> .
2	<i>Qurūh-i-Mi'da</i> (Gastric ulcer)	1. Add <i>Zardī Bayḍa Murgh</i> in <i>Roghan Gul</i> and apply on abdomen (Kabiruddin 1935)
3	<i>Su'-i-Haḍm</i> (Indigestion)	1. Massage with <i>Roghan Nārdīn</i> on umbilicus (Razi Z 1999)
4	<i>Waram-i-Mi'da</i> (Gastritis)	1. Massage with <i>Roghan Nārdīn</i> on umbilicus (Razi Z 1999)
D. Amrāḍ-i-Nizām-i-Bawl (Diseases of Urinary System)		
1	<i>'Uṣr al-Bawl</i> (difficulty in micturition)	1. Massage the pubic area with astringent oils (Khalilzadeh and Tabarra 2019)
2	<i>Waram-i-Gurda</i> (nephritis)	1. Add wax in <i>Roghan Gul</i> and <i>Roghan Banafsha</i> and apply on kidney site (Hamid A 2014)
E. Amrāḍ-i-Niswān (Gynaecological diseases)		
1	<i>Awāriḍ -i-Hawāmil</i> (Complications during pregnancy)	1. Continuous rubbing hands and feet to cope with vomiting (after eating) (Khalilzadeh and Tabarra 2019) 2. Massage of the lower limb with <i>Rosa</i> oil and vinegar is useful to relieve severe swelling during pregnancy. (Khalilzadeh S 2019) 3. Strong massage of the back, neck, scapula and arm muscles with Rose oil is useful to relieve the tiredness of the back muscles (Khalilzadeh and Tabarra 2019)

2	<i>Bawl fi'l Farāsh</i> (Bed wetting)	1. Massage with <i>Roghan Nārdīn</i> on pubic region (Khan A 1904)
3	<i>Ifrāt-i-Tamth</i> (Menorrhagia)	1. Breast massage with rough texture should be done to stop heavy bleeding during menstrual period (Khalilzadeh and Tabarraī 2019)
4	<i>Ihtibās-i-Ḥayḍ</i> (Amenorrhoea)	1. Massage of legs from thigh to foot is beneficial for the patients of Amenorrhoea (Khalilzadeh and Tabarraī 2019)
5	<i>Ikhtinaq Al-Raḥim</i> (Hysteria)	1. 1. Massage with Aromatic ingredients in the vagina and massage of the whole body, especially the hands and feet is useful in hysteria. (Khalilzadeh and Tabarraī 2019)
		2. According to Razi, massage of the leg with strong strokes is useful (Razi Z 1999)
6	<i>Qillat-i-Laban</i> (Lactation insufficiency)	1. Massage of breast with <i>Roghan Bedanjīr</i> helps in lactogenesis (Kabiruddin 1935)
7	<i>Natu' al-Raḥim</i> (Uterine prolapse)	Massage with Rose oil on the pubic area and waist is useful. (Khalilzadeh and Tabarraī 2019)
8	<i>Raja</i> (Pseudo-pregnancy)	Massage with <i>Saussurea</i> oil on abdomen wall is useful (Khalilzadeh S 2019)
9	<i>Saylān al-Raḥim</i> (Vaginal discharge)	Massage of legs with <i>Mulattif</i> oils is beneficial in case of vaginal discharge (Khalilzadeh and Tabarraī 2019)
10	<i>'Usr-i-Wilādat</i> (Dystocia)	1. Massage with the <i>Linum glaze</i> , <i>Foenum glaze</i> and <i>linseed oil</i> on the cervix is beneficial. 2. Massage with <i>Anethum oil</i> on the pubic area and waist (in the down direction) is useful for dystocia (Khalilzadeh and Tabarraī 2019)
F. Amrād-i-Jild wa Taz'iniyat (Diseases of skin and cosmetics)		
1	<i>Ganj</i> (Alopecia)	1. Cook the decoction of walnut bark, <i>Parsiyaoshān</i> (Maiden hair fern) in sesame oil and massage on affected part (Tabri R 2002)
2	<i>Ḥaṣf</i> (Prickly heat)	1. Add <i>Gil-i-Multāni</i> in <i>Lu'āb Resha Khatmī</i> and massage of affected parts (Khan A 1983)
3	<i>Jarb</i> (Scabies)	1. Add <i>Arq Limun</i> 50g, Lemon juice 10g with <i>Roghan Chamelī</i> 10g and massage on affected parts (Khan A 1983)
4	<i>Qūba</i> (Ringworm)	1. Mix <i>Ushaq</i> (gum ammoniac) with lemon juice and vinegar and massage on affected parts (Khan A 1983, Razi Z 1999)
5	<i>Shara</i> (Urticaria)	1. Mix <i>Namak</i> and <i>Maida Gandum</i> in equal quantity and massage on affected parts (Khan A 1983)
G. Amrād-i-Atfāl (Child diseases)		
1	<i>Umm al-Sibyān</i> (Infantile convulsion)	1. Massage of extremities with <i>Jund Bedastar</i> is useful in infantile convulsion. 2. Mix ' <i>Ud Ṣalīb</i> with vinegar and add it in <i>Roghan Gul</i> and Massage over the whole body (Razi Z 1997)

H. Amrād-i-Mafāsīl , Adlāt wa ‘Uzzām (Musculoskeletal, and Bone diseases)		
1	<i>‘Irq al-Nasā</i> (Sciatica)	1. Massage with <i>Roghan-i-Farfīyūn</i> on affected limb (Khan MA 2003) 1. Massage with <i>Roghan Bābchī</i> is also useful (Imam G 2001)
2	<i>Niqris</i> (Gout)	1. Massage with <i>Roghan Sudāb</i> is useful in gout (Khan A 1904)
3	<i>Tahajjur-i-Mafāsīl</i> (frozen joints)	1. If the cause is <i>Balghamī</i> (cold), then massage with <i>Roghan Qust</i> , <i>Roghan Harmal</i> , <i>Roghan Bedanjūr</i> , <i>Roghan Nārdīn</i> , <i>Roghan Badam Talkh</i> , or <i>Roghan Awrāq</i> (Khan A 1983, Khan A 1904)
4	<i>Waj’ al-Sāqain</i> (pain in calf muscle)	1. <i>Ajwain Khurāsāni</i> , <i>Mastagi</i> and <i>Sūranjān</i> each 3 g added in <i>Roghan Gul</i> is applied as massage to cure pain in calf muscle (Khan A 1904)
5	<i>Waja’ al-‘Unuq</i> (Cervical spondylosis)	1. Massage with <i>Roghan Shibbat</i> is effective for neck pain.
6	<i>Waja’ al-Mafasil</i> (Arthralgia)	1. Massage the oil prepared with <i>Ajwain</i> (<i>Roghan Ajwain</i>) in sesame oil (Imam G 2001) 2. Massage the joint with <i>Roghan Zanjabīl</i> (ginger oil) (Imam G 2001)
7	<i>Waja’ al-Warik</i> (pain in Hip joint)	1. Massage with <i>Roghan Farfīyūn</i> and <i>Jund Bedastar</i> (Razi Z 1999)
8	<i>Waja’ al-Zahr</i> (Lumber spondylosis /lumbago)	1. Massage the back with mildly warm <i>Roghan Zaitūn</i> (Ibn-Zohr 1936)

X. CONTRAINDICATIONS AND COMPLICATION OF DALK (MASSAGE)

1. Contraindication

- Acute injury
- Skin disorders like eczema, ulcer, and inflammation. (Nafis K YNM)
- Superficial infections of skin or ulcer, unhealed scars, open wounds, malignant tumour, ligament injury, abscess, gangrene etc. (Nafis K YNM)
- Massage is contraindicated over joints or other tissue which are inflamed, especially joints with tubercular infection. (Nafis K YNM)
- Massage is contraindicated in congestive heart disease, kidney failure, hyperpyrexia, varicose vein, bleeding disorders, deep vein thrombosis, severe osteoporosis, and severe thrombocytopenia. (Mahmooda B et al. 2016)
- Massage is contra indicated during 1st trimester of pregnancy.
- Massage is also contraindicated immediately after surgery.
- Deep vein thrombosis
- Very hairy skin (Malik I et al. 2013)

2. Adverse effects or complication: *Dalk* is mostly free of adverse effect but following are some of the side effects attributed to wrong techniques applied or massage done by layman:

- Hypersensitivity with specific oil.
- Irritation due to *Muharrik* effect of some oils.
- Local hyperaemia.
- Cold and catarrh if wrongly applied cold oil in cold temperament people
- Displacement of urethral stents
- Nerve damage
- Pain
- Pseudo-aneurysm
- Pulmonary embolism

XI. SCIENTIFIC REPORTS

1. Effect on psychiatric disorders: Smith *et al.* (2007) studied the effect of massage in psychiatric disorders and found that massage has a positive psychological effect in improving general mood, decreasing anxiety, stress and depression in a Meta-analysis of 37 RCTs (Smith AR 2007).

Falkensteiner *et al.* revealed that massage therapy is a non-invasive, cost-effective intervention in reduction of somatic signs and symptoms such as pain, anxiety, and depression in severely ill cancer patients (Falkensteiner et al. 2011).

2. Effect of massage in migraine: Lawler & Cameron (2006) in a RCT found that preliminary support for the utility of massage therapy as a treatment of choice for migraine (Lawler & Cameron 2006).

3. Effect of massage on insomnia: A pilot study was done to evaluate the effectiveness of *Dalk* (Massage) with *Roghan Labub-i-Sab'a* in the management of Insomnia. The study showed 67.51% improvement of sleep when evaluated with the help of Pittsburgh Sleep Quality Index (PSQI) and 50.85% of relief when assessment was done with Athens Insomnia Scale (Fatma S et al 2019).

4. Effect of massage in neck pain: Saha et al. (2017) conducted a study on the efficacy of massage in neck pain, in which they assessed the pain intensity using a visual analogue scale in a randomized controlled trial among 50 patients with chronic non-specific neck pain in two groups treated with cupping massage and used as waiting list control. According to the results of that study about neck pain intensity, a significant difference was found between the intervention group and control group. The average pain reduction in the intervention group was 36.2% compared to -4.5% in the control group (Saha et al. 2017).

5. Effect of *Dalk* in Hemiplegia: A study conducted by Amanullah et al. (2011) to evaluate the efficacy of Massage with *Roghan Seer* in motor recovery in hemiplegia secondary to ischemic stroke. In this study 40 patients were enrolled and randomly allocated into test

and control groups. Patients in the tests group were massaged (*Dalk Sulb*) with Roghan Seer on paretic arms and legs for duration of 10 minutes on alternate days for 45 days. Patients in control were massaged with white petroleum jelly in the same manner as in test group. There was significant improvement in the voluntary movements of lower limb ($P<0.05$) and basic mobility ($P<0.05$) in test group as compared to control group was observed. There was no significant improvement in voluntary movements of upper limb in both test and control groups ($P>0.05$). (Amanullah et al. 2011)

Another study conducted by and Rahman et al. (2012) on post stroke hemiplegic patients to evaluate the efficacy of medicated massage. In this study, 20 patients were massaged (*Dalk Mo'atadil*) with *Roghan Qust* (Saussurea oil) in the direction of lymphatic and venous drainage on vertebrae and paralyzed parts for a duration of 45 minutes on alternate days for 2 months. This study reveals the effect of massage in upper limb movement ($P<0.01$). ((Zarnigar and Rahman. 2012)

Yasir et al. (2013) conducted a clinical trial in which massage done with *Roghan Malkangani* along with *Mundij wa Mushil-i-balgham* therapy. The therapy was found effective in post stroke spasticity by reducing spasticity predominantly in antigravity muscles. (Yasir M et al. 2013)

Ahmed A. et al. (2015) conducted a trial in which *Dalk Layyin* (massage) was done using 20 ml of warm *Roghan Malkangani* on the spinal column and affected limb for 15 minutes, once a day, for a period of 2 weeks and assessed on Stroke Rehabilitation Assessment of Movement (STREAM) which shows significant improvement in STREAM scores for voluntary movements of upper limb, lower limb and basic mobility as compared to control. (Ahmed A. et al. 2015) Reif *et al.* in a clinical trial found that massage therapy is effective in the patients of Cerebral Palsy. It enhances the hip range of motion, fine and gross motor functions, better cognitive performance and more positive social behaviour (Reif *et al.* 2005).

6. **Effect of Massage in *Irq al-Nasa* (Sciatica):** A 30 days study was conducted by Jafar M et al. (2017) in which patients of *Irq al-Nasa* was treated with *Mundij wa Mushil* therapy for 15 days followed by Massage with *Roghan Farfiyūn* for remaining 15 days. Almost all patients reported improvement in VAS, ODI and straight leg raising test. (Jafar M et al. 2017)
7. **Effect of massage on post-menopausal symptoms:** A pilot study was done on post-menopausal woman to demonstrate the effectiveness of massage therapy by Hachul H. *et al.*, revealed significant improvement in sleep as well as postmenopausal symptoms (Hachul H. 2011).

XII. DISCUSSION AND CONCLUSION

The above chapter is written to make aware and update the knowledge of ancient art of *Dalk* (massage) practiced under Regimenal therapy in *Unani* medicine. From beginning of the history to the present era Massage has been used in all the traditional medicines like Ayurveda, Unani, Egyptian, Persian, Chinese medicine etc. It plays an important role in maintaining normal health; it is beneficial in both preventive and curative effects. According

to various studies conducted, it is observed that, it exhibits better efficacy in Hemiplegia, Sciatica, Bell's palsy, Headache, Numbness, neuralgia, joint diseases etc. if applied with appropriate oils according to the *Mizāj* of the diseases. No adverse effects are reported during the studies. So it is concluded that, it can be used effectively for the Management of musculoskeletal and nervous disorders where medical treatment is of less value.

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