

Clinical Understanding of *Udvarthana* (Massage with Powdered Herbs) and Its *Medohara* (Anti-Obesity) Property

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ABSTRACT

Aim: To elaborate the clinical understanding of *Udvarthana* (massage with powdered herbs) and its *Medohara* (anti-obesity) property.

Materials and methods: Thorough literary search through various Ayurveda classics and online and print databases such as PubMed, PubMed Central, Embase, EBSCO, Scirus etc and other thesis / dissertation depositories.

Discussion: Anointing the body with oils or some other materials with a specific pressure, in pratiloma direction (from feet towards head) is called as *udvarthana*. It is explained in the context of *dinacarya* by most of the classical books. It is said that this procedure should be done on a daily basis; for the maintenance of the good health and its therapeutic indications are found in various diseases.

Conclusion: *Udvarthana* can be effectively made use as a *Medohara* (anti-obesity) practice.

Keywords: Ayurveda, *Udvarthana*, *medohara*, anti-obesity, *pratiloma*

INTRODUCTION

In the present era of globalization, there has been a momentary change in the life style to a more sedentary existence over time, lack of physical exercise, stress, high caloric foods and indiscriminative food habits.¹ This highly progressive and fast lifestyle has created imbalance in the homeostasis of the body.² One side of life is happy with reduced physical activity and tasty food but the other side is showing burden with unnecessary chronic non-communicable diseases like diabetes mellitus, hypertension, cancer, ischemic heart disease, cerebro-vascular accidents, atherosclerosis, varicose veins, osteoarthritis as well as psychological disorders like stress, anxiety, depression etc.³ These diseases have been acknowledged as the foremost killer diseases of the new

millennium. Obesity is considered to be one of the major risk factors for these diseases.⁴

Obesity is one of the burning problems globally as it will hinder the different systems in the body, hence prevention of obesity is one of the major health needs of the day, as it will also decrease the risk of getting many diseases as mentioned earlier.⁵ *Sthaulya* can be considered as the outcome of alteration in the metabolic process of the body by which *dhatu*s are formed.⁶ Acharya Charaka has included *atisthoola* among *ashta nindita purusha*; a group of undesired personalities formed as a result of faulty metabolic pathways. Hence *agni* has a pivotal role in the development of such health-related problems.

It is miraculous to note that Ayurveda had conceived this idea thousands

of years ago and emphasized the role of faulty life style and dietetics as causative factors for the inequilibrium of dosha-dhatu-samyak. The concepts of swasthivritta like dinacharya, ritucharya, achararasayana etc are the strategies developed by the ancient Acharyas for the prevention and cure of such bodily ailments.⁷ Dinacharya, one among the codes of conduct for a healthy living, described various procedures such as abhyanga, udvarthana, pradeha, pariseka, mardana, vyayama etc with an aim to maintain the swasthalakshana.⁸ In this, udvarthana (rubbing the body with medicated powder) helps to empower the agni which finally results in the proper metabolism of both subcutaneous and visceral fat. Udvarthana, one among the daily regimens for the maintenance of swasthya, will be helpful to eliminate the dosas aggravated by faulty life styles. Acharyas had mentioned that udvarthana is effective for the management of sthaulya. It is having properties like kaphahara, medovilayana, angasthirikarana etc. Moreover, udvarthana is a simple process and has no harmful effect when compared with other fat reducing packages and treatments offered by present era.

Udvarthana as a therapeutic procedure

Anointing the body with oils or some other materials with a specific pressure, in *pratiloma* direction (from feet towards head) is called as *udvarthana*. It is explained in the context of dinacharya by most of the classical books. It is said that this procedure should be done on a daily basis; for the maintenance of the good health and its therapeutic indications are found in various diseases. This massage is quite opposite to the massage done in abhyanga.

Classification

On the basis of treatment, it is of two types:

- I. Snigdha (unctuous) – indicated in emaciation.
- II. Ruksha (dry) – indicated in obesity.

On the basis of dravya:

- I. Udgharsana (Reinforced friction)
- II. Utsadana (Rubbing)

1. Udgharsana (Reinforced friction):

Acharya Dalhana says that “rubbing the body with powdered medicine without mixing oil or other dravadravya is called as Udgharsana. Udgharsana increases tvakagataagnior bhrajaka pitta. The benefits of this are Vataamana, kantu-sphotapitaka-nasaka, sira-sodhaka, tvakagataagnivardhaka, stimulates bhrajaka Pitta.

2. Utsadana (Rubbing):

Friction of body with drugs containing sneha or medicine mixed with oil or other dravya in the form of kalkais called as utsadana. The benefits of this are it improves complexion of females, gives lovely appearances, cleanliness and beautification.

Uses of udvarthana

1. Daurgandhyahara
2. Gouravahara
3. Tandrahara
4. Kantuhara
5. Malahara
6. Arucihara
7. Vatahara
8. Kaphavilayana
9. Medodhatuvilayana
10. Angasthirikarana
11. Tvakaprasadakara
12. Kaphahara
13. Medohara
14. Sukrada
15. Balya
16. Kanti
17. Tvakamrdutva

Commonly used drugs for udvarthana:

1. For vata disorders– dry and coarse powders of amalaki, vaca and triphala are advised.
2. For pitta disorders– powders of sandal wood, musta, usheera and anantamula are beneficial.
3. For kapha disorders– powders of haritaki, vaca, nimbi and arjuna.

Important Yogas:

Kolakulthadi choornam⁹

Triphala choornam¹⁰

Jivantyadichoornam

Indications of udvarthana in rtu:

Udvarthanais indicated in vasanta and varsartu

Contraindications of Udvarthana

Rukshanaanarhas

Mode of action of udvarthana

Each one of the four tiryakgatadhamani spreading sideward/transversely divides in to hundreds and thousands of branches and becomes innumerable. By these branches the entire body appears to be full of windows; these are knit together broadly, their mouths (openings) are attached to the hair follicles. These purvey sweda and rasa both inside and outside. Through these only the potency of materials (medicines) used in the form of anointing, pouring liquids on the body and applications of pastes, get subjected to paka in the skin, enter in to interior of the body¹.

The benefits of udvarthana depend upon 2 factors:

- 1) The procedure of udvarthana
- 2) Dravya used for udvarthana.

There are many benefits of udvarthana as obtained from different ayurveda classical text books like vatahara, kaphahara, angasthirikarana etc. These benefits can be explained on the basis of mode of action of udvarthana. The concept of medodhatu starts from the very structural cholesterol – lipid bilayer of a cell, extending to all other snigdhabhavas of the cell, viz, triglycerides, cholesterol, phospholipids, fatty acids and other derivatives of lipids in body etc which are essential for cellular metabolism as well as to carry out vital functions of body so as to sustain life.

The concept of medodhatu includes all factors in the body, which is responsible for yielding essential unctuousness needed

externally, as well as those factors in a cell, which has some inevitable involvement in the internal metabolism of the cell to carry out some vital functions of the body. It can be explained by the concept of lipids and its role in keeping structural as well as functional integrity in the very cellular level.

So, medodhatu can be correlated to lipids which is present in adipose tissues, lipid bilayer of a cell, all other snigdhbhava of a cell like triglycerides, cholesterol, phospholipids, etc which are essential for cellular metabolism as well as to carry out vital functions of body to sustain life.

Vatahara:

The nirukti of vata is “vaagatigandhana”. Vata is responsible for sensory and motor activities of the body. Any disturbance in motor and sensory activities of body implies underlying vata vitiation. Udvarthana procedure applied on the skin regulates the functions of vata in the body. Udvarthana helps to breakdown the thickening and adhesions in sub-acute and chronic conditions and correct the gati of vata. Vitiating vata causes ruk or pain. Due to udvarthana, the touch receptors are stimulated and impulses are carried through the collaterals and activate the interneurons which release enkephalin. This enkephalin binds with the receptors in the membrane of primary nerve endings in the pain pathway and depolarizes it. The amplitude of action potential is reduced when it reaches the nerve ending due to pre-synaptic inhibition by the collateral. The amount of substance P released is reduced and the transmission of pain signals to the second order neurons in SGR is inhibited. Also udvarthana increases circulation and the supply of oxygen there by it helps to reduce the pain by depressing the sensitivity of pain receptors. This is pointed towards the vatahara property of udvarthana. In sthauilya, there is obstruction of vata by medas and Kapha. Udvarthana reduces Kapha and medas, removes the obstruction of vata and thereby normalizes the movement of vata.

Angasthirikarana:

In obese persons there is increase in adipocytes. These adipocytes get lipolysed by means of Udvarthana and then the cells get shrunken causing compactness. It relieves muscular tightness, stiffness, spasms and restrictions in the muscle tissues. This in turn improves the muscle tone and joint mobility. By stimulating the circulation, udvarthana improves the nutrition and development of muscular system. Increased circulation brings more oxygen and nutrients in to the muscle. Udvarthana causes removal of metabolites which produce fatigue. All these actions help in sthirikarana of anga.

Tvakprasadakara:

The colour of skin depends on amount of melanocytes and blood circulating beneath the skin. Increase in the circulation improves skin's texture. Due to friction, Udvarthana improves the peripheral blood circulation which supplies more red blood corpuscles. These are not manufactured by udvarthana. But these are brought into circulation instead of them remaining dormant in the system. So, the cells of the skin are supplied with more oxygen and other nutritive substances which are required for better skin colour and texture. Udvarthana causes vaso-dilatation which helps to improve the skin colour. The improved circulation also promotes the removal of waste materials. This also contributes to the prasadana of twak. In ayurveda almost all these functions are attributed to the functioning of bhrajaka pitta.

Dourgandhayahara:

Body odor is influenced by the actions of the skin bacterial flora, including members of Coryne bacterium, which manufacture enzymes called lipases that break down the lipids in sweat to create smaller molecules like butyric acid. These smaller molecules smell, and give body odor its characteristic aroma. Propionic acid is present in many sweat samples. This acid is a breakdown product of some amino acids by propionic bacteria, which thrive in the ducts of adolescent and adult sebaceous

glands. Because propionic acid is chemically similar to acetic acid with similar characteristics including odor, body odors may be identified as having a vinegar-like smell by certain people. Udvarthana helps get rid of the body odour by removing these bacteria and substances, the conversion of which causes body odour. Udvarthana causes decrease in mala of medas, so formation of excess sweat is reduced, resulting in above benefit.

Kanduhara (removal of itching):

Kandu is due to obstruction in the svedavahasrotas. Udvarthana clears the orifices of svedavahasrotas by its siramukhavisodhanaguna and normalizes the svedapravritti and thereby reduces itching. Scratching relieves itching. The mechanism is same as gate control hypothesis in pain sensation, ie, scratching stimulates large, fast conducting afferents, which causes pre-synaptic inhibition of fibres in the dorsal horn cells. Udvarthana, powder massage, acts like scratching at some extent and it relieves itching.

Gouravahara (depletion of heaviness):

Gourava is due to kapha and medas. Kaphahara and medohara action of Udvarthana causes loss of kapha and meda which produces lightness to body. Udvarthana helps to burst the fat cells in subcutaneous tissue so that the fat exudes; the cells get shrunken and become absorbed in to circulation.

Tandrahara (removal of drowsiness):

As a part of dinacharya, Udvarthana refreshes the individual by improving circulation. Udvarthana improves the cerebral circulation also. Due to udvarthana, the channels are opened, which ensures the proper supply of nutrients and oxygen to the body cells. The alternate pressure and relaxation bring oxygenated blood to the part. It increases nutrition in all tissues. It removes fatigue, carrying away the increased products of combustion. There by a person becomes more energetic. Tandra is due to tamoguṇa, which is increased by

vikṛtakapha. Udvarthana reduces kapha, so relieves tandra.

Malahara (removal of excretory products):

Toxic materials must be removed from the tissues in order to restore the normal functions of the body and this can be accomplished by udvarthana. Mala includes purisha, mutra and sveda. By increasing circulation and lymph drainage from the tissues udvarthana increases the urinary output. Sweat is an excretory material. Udvarthana causes srotomukhavishodhana of svedavahasrotas and thereby increases the excretory activity of sweat glands.

Sukrada:

In sthoulya, there is mandata of medodhatvagni. Due to this reason uttarottaraposhana of dhatu gets hampered. Udvarthana corrects medodhatvagni and so the formation of uttarottara dhatu takes place, thereby increasing the level of final dhatu sukra. It is mentioned in the modern literature “fat binds the testosterone”. i.e. high levels of lipids in blood decrease Testosterone. Due to the medohara property of Udvarthana it reduces the cholesterol there by hindering the testosterone binding thus making more availability of testosterone.

Tvakmrduta (softness of skin):

Due to friction, udvarthana causes exfoliation of superficial dead skin cells. The dead cells are removed by the constant action of the hand over the skin. This promotes growth of new epidermal layer and blood circulation, there by supplying oxygen to the dermal cells. The sweat glands, hair follicles and the sebaceous glands thus become free from obstruction and can function more effectively. This leads to proper sebaceous secretions from exocrine glands of skin and thus, improves the lubrication and appearance of skin. Thereby udvarthana keeps the skin lustrous and soft. Udvarthana improves the nutritive status of skin due to cutaneous vasodilatation.

Effect of udvarthana on body parameters

Body weight

Samhanana, sthiratva and gurutva are the properties of kaphadosha and dridhatva is the property of medodhatu. The reduction in weight can be explained on the basis of the kaphahara and medohara effect of udvarthana. Udvarthana is helpful for reducing Weight and BMI. In classical Ayurvedic text books, it is mentioned that Udvarthana is helpful for alleviation of excess kapha and also reduction of meda. Kapha and Meda are related on the basis of “Asrayasrayibhava”. According to Acarya Caraka, meda is the seat of sleshma, and meda and sleshma possesses similar properties. So any decrease or increase in one component will affect the other accordingly.

Body fat percentage

This is because udvarthana can remove the deposits from the adipose tissue in the various layers of the body. There will be increase in adipocytes either in number or in size or both in persons who were having BMI ≥ 25 kg/m². By performing udvarthana these fat cells get lipolysed. Udvarthana causes stimulation of sympathetic nervous system and the body releases noradrenaline. The noradrenaline, activates the hormone sensitive lipase. This hormone is responsible for breaking down of TG in to free fatty acids which undergo catabolism. This is the reason for reduction in body fat percentage.

Haemoglobin

Udvarthana stimulates the sympathetic nervous system which in turn causes splenic contracture, increasing the release of RBC to the blood, brings the Hb level up.

Effect of Udvarthana on lipid profile:

Lipids and cholesterol are included under medodhatu. That means, after udvarthana, as good cholesterol (HDL) increases and bad cholesterol (LDL) decreases, more proteins and less fat are formed. This positive change in lipid profile

is explainable in terms of the kaphahara and medohara effect of the udvarthana as discussed in physical parameters. Due to increased friction to all the parts of the body, the Triglycerides present in the subcutaneous tissues will break down into fatty acids. These fatty acids are carried out to the liver, and then these fatty acids get converted into bile. A virechana carried out after udvarthana on the same day will expel the excess amount of bile that is formed in liver. Hence the reabsorption of the bile will be decreased, which in turn leads to further utilization of the lipid which is circulating in the blood. So that promotion of virechana following udvarthana shall be suggested as one of the treatment principles to treat hyperlipidemia.

DISCUSSION AND CONCLUSION

By neural gating mechanism and by reducing the sensitivity of pain receptors udvarthana alleviates pain. It also helps get rid of body odour by removing the bacteria and the substances, the conversion of which cause body odour. By siramukhavishodhanaguna, udvarthana reduces itching. Udvarthana decreases tandra by improving systemic circulation especially cerebral circulation. Due to the medohara property of udvarthana, it reduces cholesterol and thereby hinders the testosterone binding by the cholesterol. This action helps to increase the availability of testosterone. Bhrajaka pitta is the metabolic epithelial enzymes which cause the deepana and pachana of substances applied on twak in processes like abhyanga, udvarthana etc. Udvarthana causes vaso-dilatation which helps to improve the skin's colour.

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