



“STUDY OF SKIN MOISTURE LEVEL IN TWAKRUKSHATA OF SWEDAKSHAYA FOLLOWING SNEHABHYANGA (TILA TAILA)”

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ABSTRACT

According to *Vagbhata*, *pitta* has this main function videlicet *pakti* (digestion), *ushma* (maintain proper body temperature), *darshan* (vision), *kshudha* (hunger), *trushna* (thirst), *prabha* (lustre to skin), *medha* (intellect). Pathological increase in *Pitta* causes unheroic coloured skin and eyes and drop in *Pitta* causes loss of lustre and low glorification(*prabhahani*). Skin is the outermost covering of the body. It is composed of sweat gland, sebaceous glands, hairs, nails and numerous openings. *Snehana* therapy is also known as olation therapy, because of this external application of medicated oil, skin gets moisturized. This helps to maintain skin moisture level. To maintain the moisture of entire body is one of the chief functions of *Sweda*. The symptoms of *swedakshaya* described by *Acharya Sushruta* and *Acharya Vagbhata*. The symptoms are *Romachyuti* (hairfall), *Stabdharomata* and *Twaksfutan*(cracks) described by *Vagbhata*. The symptoms like *Twakshosha*, *Sparshavaigunya* are described by *Acharya Sushruta*. As well they state that *Abhyanga* is useful in *Swedakshaya*.

Keywords: Swedakshaya, Twakrukshata, Abhyanga

INTRODUCTION

आयुषो वेदः आयुर्वेदः । च.सु.३०/२०

As the word *Ayurveda* implies, the word *Ayurveda* has been formed by the combination of two words e.g., *Ayu* and *Veda* meaning thereby the knowledge which deals about *Ayu* or life. The word *Ayu* is also formed by the combination of suffix *A* and the root verb *Yuja*. Thus, the full word *Ayu* means to join the individual with included in the realm of treatment ^[1].

Twacha is the external covering of the body; it is also called “*Sparshanendriya*” or *Twagendriya* which envelops the body. It plays a great role in perception of sensations like touch, pain, heat, cold.

Skin is the outermost covering of the body. It is composed of sweat gland, sebaceous glands, hairs, nails and numerous openings. Sweat glands which excrete waste materials of the body through sweat and sebaceous gland which keep the skin surface oily. Skin is having protective functions helps in general sensation helps in excretion of waste products of metabolism synthesize vitamin-D maintains water balance and stores fats, water and salts. *Panchakarma* is the purification procedure said in *Ayurveda*. Before undergoing the actual process, some before have medications (i.e., *Panchakarma*) is given. One of the *purva karma* is *Snehana*. *Snehana* therapy is also known as olation therapy, because of this external application of medicated oil, skin gets moisturized. This helps to maintain skin moisture level.

स्वेद क्लेदत्वकसौकुमार्यक्रुत ॥ सु. सू. १५/५

Functions of the *Sweda* are-

Kledavridhhi – moisturizes the skin

Saukumaryakrit – makes skin soft and smooth, maintains body temperature, sweat eliminates the heat generated along with water soluble toxins present in blood, *rasa* and *meda*.^[2] Sweat is the site of *pitta*.^[3] This is why *pitta* people sweat more. When we are angry and excessively stressed, we sweat. All these increase *pitta dosha* in body leading to sweating. So, by these reasons there should be loss of the third *mala Sweda* and the symptoms appears like *Twakrukshata*, *sparshavaigunya* and *stabdha Romakupata*. This is the reason why people suffering from skin diseases.

AIM OF STUDY

- 1) To access the change in skin moisture level in *Twakrukshata* of *swedakshaya*.
- 2) To study the *Twakrukshata* in *Swedakshaya*.
- 3) To evaluate the effect of *Abhyanga* in *Twakrukshata*.

REVIEW OF LITERATURE

Review of *Sweda Mala*:

तत्र आहार प्रसादाख्यो रसः किट्टे च मलाख्यम् अभिनिर्वर्तते ।

किट्टात् स्वेद मूत्र पुरीष पुष्यन्ति ॥^[4] च. सू. २८

Definition and meaning of *mala*

Those which pollute other components of the body are called malas, being themselves the waste products of the food. As per *Ayurveda*, waste matters of the body are as important as body tissues for maintenance of good health and longevity. *Ayurveda* explains specific functions of these waste matters.

The three major excreta of the body which are the waste products of metabolism. They are *Purisha* – stool, *Mutra* – urine and *Sweda* - sweat

These three are formed on daily basis and keep the body healthy and fit by getting excreted out of the body at proper time and right quantity. If they remain in the body, they would cause many diseases.

मलः स्वेदस्तु मेदसः ॥^[5] च चि १५/१८

According to *Acharya Charaka*, *Sweda* is the Mala of *Meda dhatu*.

स्वेदवहानां स्तोतसां मेदो मुलं लोमकूपाश्च ॥^[6] च वि ५/८

The position of *Swedavaha strotasa* is *Medomula* and *Lomakupashcha*.

Sweda (Physiological Perspiration)

स्वेद क्लेदत्वकसौकुमार्यकृत ॥ सु. सू. १५/५

Perspiration or sweating is a physiological process of body to cope up with thermoregulation. *Ayurveda* has included sweat in three basic end products of metabolism, the waste product. It maintains the balance of watery elements, the depletion of which will cause dryness of skin. The deficiency of sweat creates stiffness and loss of hair, breaking of skin.

स्वेदोवहानां स्रोतसां मेदोमूलं लोमकूपांश्च^[7] च.वि. ५.८

स्वेदवाहिनां मेदो लोमकूपांश्च^[8] अ.सं.शा. ६.४३

Principle organs of *Swedavaha strotas* are *Medodhatu* and hair follicles.

Functions of sweat: To maintain the moisture of entire body is one of the chief functions of *Sweda*.

स्वेदस्य क्लेदविधृतिः^[9] अ.इ.सू. ११.५

Alternate word used for *kleda* or moisture is *kesha* or hair *Ayurveda* believes that due to sweat, hair become more stable.

Swedakshaya: -

स्वेदे रोमच्युतिः स्तब्धरोमता स्फुटनं त्वच ॥^[10] अ हु सु ११ / २२

स्वेदक्षये स्तब्धरोमकुपता त्वकशोषः स्पर्शवैगुण्यम्

स्वेदनाशश्च तताभ्यंग स्वेदोपयोगश्च ॥^[11] (सु. सू. १५/१५)

These are the symptoms of *swedakshaya* described by *Acharya Sushruta* and *Acharya Vagbhata*. The symptoms are *Romachyuti* (hairfall), *Stabdharomata* and *Twaksfutan*(cracks) described by *Vagbhata*. The symptoms like *Twakshosha*, *Sparshavaigunya* are described by *Acharya Sushruta*. As well they state that *Abhyanga* is useful in *Swedakshaya*.

TWAK ORIGIN –

तद्धथा-त्वक च | लोहित च मांस मेदसश्च ॥^[12] च. शा.३/६

Twak is the *Upadhatu* of *Mamsa Dhatu*, *Acharaya Charaka* explained that the *Twak* is the *Matrujabhava*.

NUMBER OF TWACHA***Acharaya Sushruta –***

Acharaya explained the *Twak* layers as per according to layers thickness and disease occurring in each layer.^[13]

Table 1- Showing the comparison of thickness of *Twak*:-

<i>Twacha</i>	<i>Sushrut</i>	Modern measurement	<i>Dalhana</i>	Modern measurement
<i>Avabhasini</i>	1/18	0.055	18/20	0.90
<i>Lohita</i>	1/16	0.062	16/20	0.80
<i>Shweta</i>	1/12	0.083	12/20	0.60
<i>Tamra</i>	1/8	0.125	8/20	0.40
<i>Vedini</i>	1/5	0.125	5/20	0.20
<i>Rohini</i>	1	1	1	1
<i>Mamsadhara</i>	2	2	2	2
		Total=3.525		

LAYERS OF SKIN: -

Structurally, the skin made up of two layers-

1) Epidermis

2) Dermis

1) Epidermis-

It is the outermost layer of skin; it is composed of nonvascular stratified squamous epithelium, and its thickness is 0.07-0.12 mm. Epidermis containing 4 types of cells: -

- a) Keratinocytes
- a) Melanocytes
- b) Langerhans cells
- c) Merkel cells

Layers of epidermis –

- 1) Stratum Corneum
- 2) Stratum lucidum
- 3) Stratum granulosum
- 4) Stratum spinosum
- 5) Stratum germinativum

2) Dermis –

It is the inner thicker layer of the skin .it is a connective tissue layer made up of collagen fibers, fibroblasts and histiocytes.

Layers of Dermis: -

- 1) papillary layer – It is a superficial layer. It contains blood vessels, lymphatics and nerve fibers.
- 2) Reticular layers- It is made up of reticular and elastic fibers, these fibers are found around the hair bulbs, sweat glands and sebaceous glands.

FUNCTIONS OF SKIN: -

- 1) Protective Function
 - a) Protection from bacteria and toxic substances
 - b) Protection from mechanical blow
 - c) Protection from ultraviolet rays
- 2) Sensory Function
- 3) Storage Function
- 4) Synthetic Function
- 5) Regulation of body temperature

6) Absorptive Function

7) Secretary Functions

REVIEW OF *TILA TAILA*

Tila Taila is considered as the best among all the vegetable oils. It has both external and internal uses. *Acharya Charaka* has grouped it in the *Mahakasayas* under *swedopaga* and *purisha virajaniya*.

सर्वेषां तैलजातानां तिळतैलं विशिष्यते।

बलार्थे स्नेहने च अग्र्यं एण्डे तु विरेचने॥^[14] च सु १३/१२

Vernacular Names for *Tila Taila* -

Properties of *Tila Taila* mentioned in *Bhavprakasa* as follows:

Rasa - Sweet, Astringent, Bitter, Pungent.

Vipaka – Sweet.

Virya – Hot.

Guna - *Suksma, Guru, sara, Dipan, Lekhana, Balya*

Action on *dosha* - Alleviates *Tridosha*.

Panchamahabhoutik composition - prominently *Pruthvi* and *Apa*.^[15]

MATERIALS AND METHODS

MATERIAL

- 1) Classical taken healthy volunteers.
- 2) In age group 30 to 70 years.
- 3) Investigation according to Ayurvedic and Modern parameters.
- 4) Persons having dry skin (skin moisture level below 40)

METHODOLOGY

Patients had classical signs and symptoms indicated for *Abhyanga* was selected for the study from O.P.D. of our Hospital, of age group 30 years to 70 years both male and female patients. The healthy volunteers were subjected for the study.

Place of Study: Patients reported in the OPD and IPD of our Hospital.

Consent: A well-informed written consent of all patients included.

Plan of Study: A study was carried out fewer than 2 headings viz conceptual study and interventional study.

A) Conceptual study –

For this study conceptual and basic materials was collected from *Ayurvedic* classic or as *Bruhatrayi* and *Laghutrayi*. Modern books, research articles papers have been referred for literary materials collected.

B) Interventional study –

For this interventional study the method and materials criteria of inclusive and exclusive registered patients. For the present study 60 patients taken for this study the patients had been taken from outdoor department of our hospital. *Ayurvedic* examination, case record, skin moisture level, and assessment of swedakshaya lakshanas.

SAMPLE SIZE – 60 PATIENTS

All patients given *Abhyanga* of *Tila Taila* for 7 days.

Inclusive Criteria –

- Gender male – female irrespective of social age, gender, education.
- Age group 30-70
- Persons having dry skin (skin moisture level below 40)

Exclusive Criteria-

- Persons having systemic diseases like *Hypertension*, *Diabetes mellitus*, *Ascites* or any skin disease.
- Persons in which *Abhyanga* is contra-indicated, will be excluded.
- Age group before 30 and after 70.

Standard operating procedure

Abhyanga means application of oil in *Anuloma gati* (in direction of hair).

Oil: - *Tila Taila*.

Area of application: - Upper limbs, lower limbs of person.

Duration: - Up to 7 days (follow up 3rd, 5th, and 7th day)

Quantity: - 50ml

Temperature of oil: - Lukewarm.

Frequency: - up to 7 days.

STUDY INSTRUMENT

SKIN MOISTURE METER

The Moisture Meter is a white stick with a sensor that measures the amount of moisture in your skin. The number on the meter indicated how hydrated (or dehydrated) your skin is, and helps you figure out the kind of products that you should be using on your skin.

Value of meter-

- 1) From 0 to 40 %- for skin dry.
- 2) From 40 to 70 %- for skin is deemed normal.
- 3) From 70 to 99 % - for with plenty of moisture. [33]

Prikshana of Swedakshaya Lakshanas

1) *Romastabdhata* –

0 = absent

1 = present at some part of body

2 = present all over the body

2) *Sfutan Twacha* –

0 = absent

1 = present over palms and forehand

2 = present over some part of body

3 = present all over the body

3) *Romachyuti* –

1) Normal or number of hairs fall per day 0-30 is graded 0

2) Mild or number of hairs fall per day in between 30-60 is graded 1

3) Moderate or number of hairs fall per day in between 60-100 is graded 2

4) Severe or number of hairs fall per day in between 100-160 is graded 3

5) Hair falls more than 160 per day is graded 4.

4) *Twakrukshata* –

Skin Moisture Meter

Meter shows number from 0-99

0-40 means - dry skin

40-70 skin is - normal

From 70-99 skin is - with plenty of moisture



5) *Sparsha vaigunya* –

Two-point discrimination test

OBSERVATION AND RESULT

Table 2- Day wise changes in average Skin moisture level value

Day	1st Day	3rd Day	5th Day	7th Day
Average	32.27	35.02	37.48	39.42
% Relief		8.52	16.17	22.16

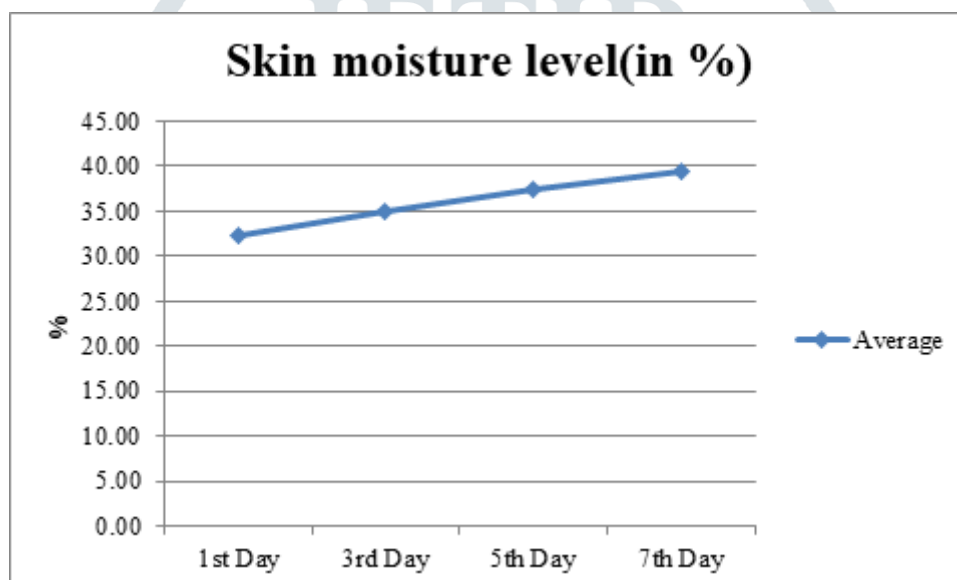


Figure 1- Day wise changes in average Skin moisture level value

Statistically there is significant increase ($t = 14.97$, $P < 0.01$) in Skin moisture level values using treatment. So, the *Twakrukshata* symptom decreases gradually. Hence treatment is effective.

Table 3- Symptom wise % relief observed by treatment to all patient

Symptom	Before treatment (BT)	After treatment (AT)	D= BT-AT	%Relief
<i>Twakrukshata</i>	32.27	39.42	7.15	22.2
<i>Roma stabdhata</i>	1.0	0.22	0.78	77.8
<i>Twaksfutan</i>	1.55	0.14	1.41	90.9
<i>Romachyuti</i>	1.00	0.00	1.00	100.0
<i>Sparsh Vaigunya</i>	1.00	0.43	0.57	57.14

Skin moisture level increased by 22.2% by treatment while *Roma stabdhata*, *Twaksfutan*, *Romachyuti* and *Sparsh Vaigunya* symptom score decreased by 77.8%, 90.9%, 100% and 57.14% respectively by treatment.

CONCLUSION

In the present study entitled “Study of skin moisture level in *Twakrukshata* of *Swedakshaya* following *Snehabhyanga*(*Tila Taila*)” based on the observations made in the study and after a logical discussion, the following conclusions can be made.

- 1) In this study, we found that there is a significant change in skin moisture level in *twakrukshata* of *swedakshaya*.
- 2) Skin moisture meter is a digital detector that measures the amount of moisture in skin, I.e., used to study the *Twakrukshata* in present study.
- 3) *Tila Taila gunas* are *sukshma*, *balya*, *laghutakarak* and *twakprasadkar*.
- 4) *Snehabhyanga* with *Tila Taila* helps to maintain skin moisture and thus prevents skin diseases those that are caused due to dry skin.
- 5) In this present study, majority of cases I.e., 43.3% were from age group 30-39 years, 35% cases were from 40-49 years of age, percentage of cases in age group 60-69 is 15%.
- 6) According to skin moisture meter reading, following *snehabhyanga* of *Tila Taila*, it is observed that there is significant decrease in *twakrukshata* symptom.
- 7) Also, there is significant decrease observed in symptoms like *romastabdhata*, *romachyuti*, *twaksfutan* and *sparshavaigunya*.

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