

EFFECT OF VIRECHANA ON SKIN GLOSSINESS ON DIFFERENT TIME POINTS WITH THE HELP OF SKIN GLASSMETER - A CLINICAL TRAIL

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ABSTRACT

In today's era everyone wants good, glowing, glossy and healthy skin, which can be achieved through proper *dhatu* *rasa*. *Panchakarma* therapy aims at the elimination of excessive *Dosha* from the body to maintain the state of good health for a longer duration. *Virechana* is one of the *Panchakarma* therapies, which has effect on all *dosha* and *dhatu*. *Virechana* shows good effect on *balavarnakanti*. The word *kanti* means glow or glossiness of skin. It is clinically proved that with *virechana* glossiness of skin increases, but there is no any scientific data to prove this for global acceptance. This study was conducted to evaluate the effect of *virechana* on skin glossiness. This study involved estimation of skin glossiness by using skin gloss meter before and after *virechana* in 6 healthy individuals. The skin glossiness was checked for 7 times in each subject, i.e. before *deepanpachan*, very next day of *virechana*, on 8th, 15th, 22nd, 29th, and 36th day after *virechana*. The results show there is a gradual increase in skin glossiness after *virechana*.

Keywords: Therapeutic purgation, *Virechanakarma*, *glossometer*, skin glossiness

INTRODUCTION

Panchkarma is nothing but unique approach of *ayurveda*. These are five purification methods removes the toxins from nearest possible route. These are not only *shodhan* therapies but also has wider range of therapeutics such as *brimhana*, *lekhan*, *stambhana*, *Rasayan* etc. *Panchkarma* revitalize the

tissues so popularly known as rejuvenation therapy. *Virechana* is one among the *panchkarma* very widely used because of its simplicity, less stress, less complication, and also useful for all *dosha* vitiation. *Virechana* have effect on skin and its glossiness and texture and it is clinically proven but for the scien-

tific prove there is no any data available in the world of *Ayurveda*. So, keeping this in mind the glossiness of skin was checked with the help of skin gloss meter on seven different time points i.e. before *deepanpachan*, very next day of *virechana*, on 8th,

15th, 22nd, 29th, and 36th day after *virechana*. The level of glossiness was compared every time points.

Aim and objective: To evaluate the effect of *virechana* on glossiness of skin with the help of skin gloss meter.

Materials and Methods:

Source of data:	Healthy subjects fulfilling the inclusion criteria were selected from OPD /IPD and KLEU's Ayurveda Hospital & Medical Research Centre, Belagavi. The healthy subjects were assessed through health questioners. The subjects were enrolled for study after obtaining informed consent. A total of 6 subjects enrolled for the study and all of them completed the study.
Research design:	Single group
Duration of study:	18 months
Sample Size:	6

INCLUSION CRITERIA:

Apparently healthy individuals who are willing to participate in study

EXCLUSION CRITERIA:

Individuals who have any chronic or acute ailments

INTERVENTION:

Virechana karma:

- *Deepana Pachana* with *chitrakadi vati* - Till *deepan – paachan* is obtained *Chitrakadi vati* was given 2 tab three times a day with hot water before food. *Niram Lakshnas* like *Jivhaaliptata* and *SrushtaVitpravritti*.
- *Snehapana* with *Moorchit ghrita* – *Arohan Karma Snehapan* till *samyak snehan lakshan* occurs. *Samyak Snigdha Lakshana*– The subjects were assessed for *Samyak Snigdha Lakshana*. (These *Lakshanas* were assessed at *koshta* and *twacha* level and noted)
- *Vishrama Kala* – 3 days *Sarvanga Abhyanga* with *Moorchit tila taila* followed by *Bashpa sweda* was done during *svishramakala*.
- *Virechana*- On the day of *Virechana Sarvanga abhyanga* with *Moorchit tila taila* followed by *Bashpa sweda* was done. This was followed by *Virechana Aushadi* administration. *Trivrut lehya* with hot water was administered based on *Koshta* of the subject.

- *Virechana Shuddhi*– *Antika* and *Vaigika Shuddhi* were observed on the day of *Virechana*.
- *Samsarjanakrama*- Advised according to the type of *virechana shuddhi* of each subject.

Analysis of skin glossiness level:

The analysis of skin glossiness was done by gloss meter on different time points by following the Standard Operative Procedure using gloss meter.

Time points as follows:

1. Time point : Before *deepanpachan*
2. Time point : very next day of *virechana*
3. Time point : on 8th day of *virechana*
4. Time point : on 15th day of *virechana*
5. Time point : on 22nd day of *virechana*
6. Time point : on 29th day of *virechana*
7. Time point : on 36th day of *virechana*

Standard operative procedure of gloss meter

Purpose and Application/Scope:

1. Skin Gloss Meter is destined to measure glossiness of the skin surface.
2. To describe the procedures for measuring the Skin Gloss Meter of the upper skin layer of study participants.
3. The procedure describes in this SOP is applicable for the measurement of Skin Gloss Meter Measurement of the study participants enrolled

in the study at KLEU BMK Ayurveda Mahavidhyalaya, Belgaum.

Principle of action:

The measurement is based on a specularly reflecting light from skin and other non-planar surfaces. In the Skin Gloss Meter the light beam reflects back at the same angle as it contacts the measured surface. The Skin Gloss Meter does not measure scattered light as this is not related to the actual definition of gloss.

Requirements:

1. Delfin instrument
 - a. Skin Gloss Meter
2. Desktop with 1GB RAM
3. A 320 GB Hard Disk
4. A Computer Table
5. An Examination table
6. Chairs and stools
7. AC
8. Dehumidifier
9. Cotton cloth
10. Tissue roll
11. 70% Ethanol for cleaning adaptors
12. Plain distilled water

General instruction to be given to the participants at their home one day prior to the test:

1. Not to use any cosmetic, oil etc. on the skin and head on the day of examination.
2. Male participants should shave their beard on the day of test.
3. Participant should take bath on the day of test.

Pre procedural instructions:

1. The participant must be acclimatized for at least 30 minutes prior to all skin tests. Humidity of room must be 40-45% and temperature at around 25°C.
2. All Doors of the room should be closed properly as the participant enters the room.
3. Ask the study participant to sit on the chair comfortably, in relaxed condition in the acclimatization room.
4. The air from AC etc should not be falling directly on the study participant.

5. The measuring sites should be cleaned properly using cotton swab dipped in plain water just after the participant has arrived for study.
6. Administration of questionnaire and Electrogustometer test could be performed during the acclimatization.

Points to be taken care of, by the examiner

1. Avoid any types of moles, scars, burns, cuts or any other kind of spots on skin while taking measurement.
2. Make sure that the participant should not close/cover any skin area to be measured during the test.
3. Fill in the details about any kinds of cosmetics, oil used by the participant or any treatment that would change the parameters being tested. This can be filled in the comments section of the software.
4. Calibrate instruments as per the protocols for calibration.
5. Switch on the dehumidifier and air conditioner at least 2-3 hours before taking the tests so that the Relative Humidity and temperature comes to desired levels.
6. There should be no direct and harsh lights in the skin testing room area of measurement.

Instrument calibration:

- a. Doesn't required to calibrate

Do's and Don'ts:

Do's

1. Keep the laser light far away from eyes.
2. Store the SkinGloss Meter in its case, in a clean and dry place.
3. Avoid conditions where condensation can occur, e.g. quick temperature changes.
4. Prevent any solutions, dirt and dust from entering the measurement room.
5. Avoid exposing the SkinGloss Meter to excessive vibration or direct sun light.
6. It is important to prevent all the ambient light to enter the detector of the SkinGloss Meter. Check the instrument head is perpendicular to the measured surface every time you measure

Don'ts

1. Don't look at the probe when the red light is on.
2. Do not perform the test under very bright light (falling directly on the probe)

Starting the software and creating the project

1. Start the software (Delfwin-4) and click file and create New Project.
2. Add project information
 - a. Study participant ID
 - b. Date of Birth
 - c. Comment-Male/Female
3. Click Add to add test person and click next to add more Participants.
4. Add Sessions: Reading1, Reading2, Reading3
5. Create separate sessions for each probe of Moisture meter D
6. Add Sites: All 5 sites- Palm (PA), Volar Forearm (VF), Forehead (FH), Abdomen (AB), and Cheek (CH).
7. Add instruments: 3 Instruments (Vapometer, Glossmeter, Moisturemeter D)
8. Add serial no. of each instrument in space provided.

Editing Projects

Click Edit → Project and edit/delete/rearrange the entries.

Measurement

1. Open project.
2. Start the instrument by pressing the tab of Glossmeter and check for proper connections. If not connected properly then PC connection mode has to be selected by pressing the operating button during three lines (---) on the display and the receiver unit is connected to the computer for PC connection. Delfin 4 software's title bar indicates if the USB receiver is connected and installed properly.
3. Now select the person and site and click on Reading 1.

4. Place the SkinGloss Meter on the skin and keep it perpendicularly to the skin to avoid ambient light entering the instrument.
5. Press the operating tab shortly to start the operation.
6. Slide the SkinGloss Meter slowly and evenly on the skin surface, until the red light turns off, the instrument beeps and the readings appear on the display Ave-> Gloss of the skin in SGU (Skin Gloss Unit) Rou-> Relative roughness of the skin (Higher reading indicates rougher skin) The instrument will shut down automatically.
7. Repeat the same procedure for 3 readings of each expected sites.
8. Export the data to the excel sheet.

Exporting the Results to Excel file

1. Click File and then Export
2. In the Export window, sort by Table-Site and Sessions and click on "include site & session" comments.
3. Click on Export excel
4. Give name to the file and save it to the desired location.
5. Wait for the data processing and when a dialog box appears click 'Yes'.

Charging the Battery

1. When the voltage of the battery is low, a message 'bat' appears on the display after the measurement. Connect the charger into a connection on the rear head of the SkinGloss Meter. Charging the SkinGloss Meter takes from two to four hours.
2. Measurements cannot be performed during the charging operations.
3. The battery is fully charged when the Led of the charger turns green from orange.

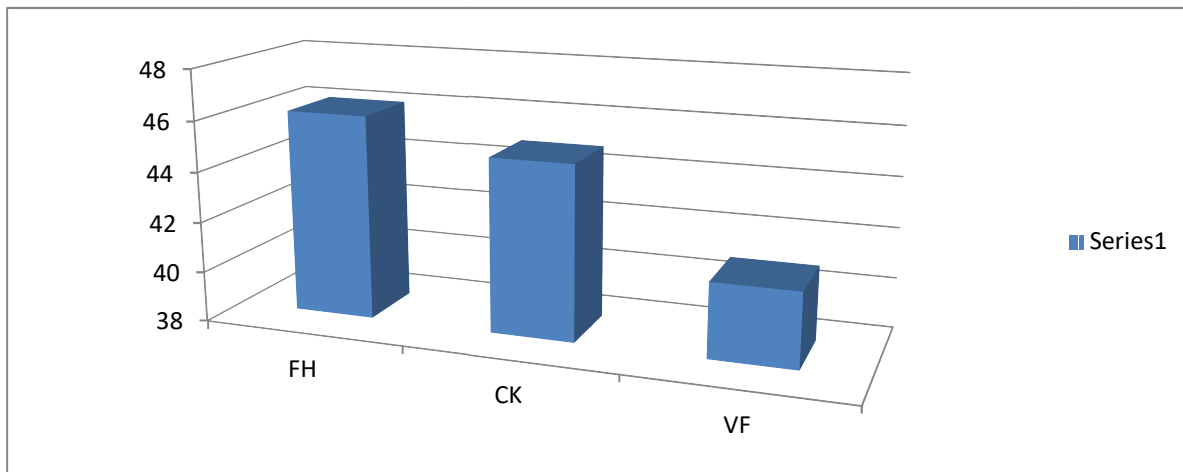


Figure: Skin sites to be measured
Skin site abbreviation
 1. VF-Volar forearm of left hand
 2. FH- Forehead
 3. CH-Cheek of the left side

RESULTS:

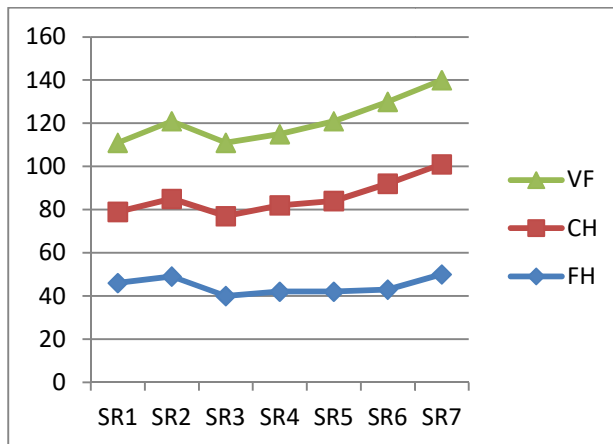
Observation tables/ Graphs as follows:

GRAPH 1: SHOWING OVERALL GLOSSINESS IN DIFFERANTB BODY PARTS

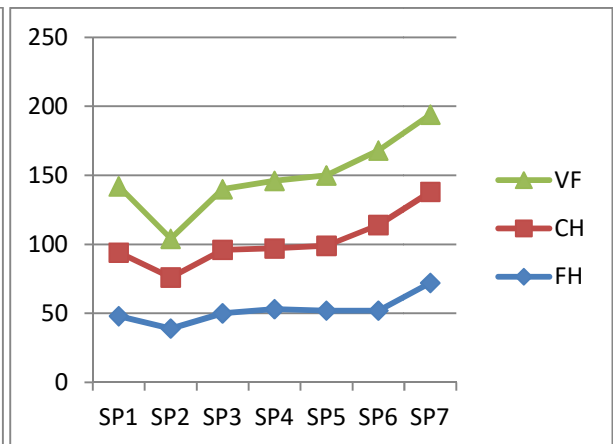


GRAPH 2, 3, 4, 5, 6, 7: SHOWING CHANGES IN GLOSSINESS IN SUBJECTS WHO UNDERWENT FOR VIRECHANA

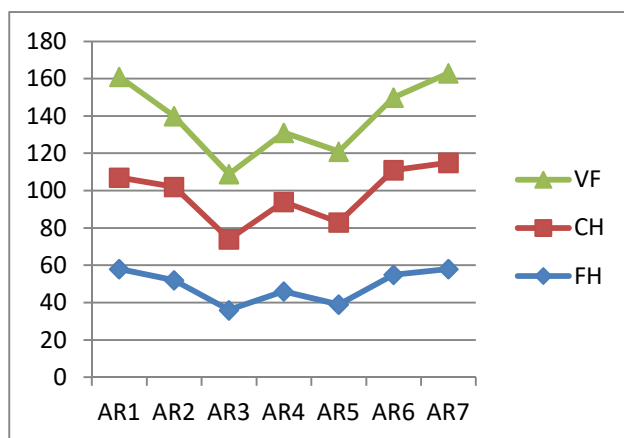
GRAPH 2:



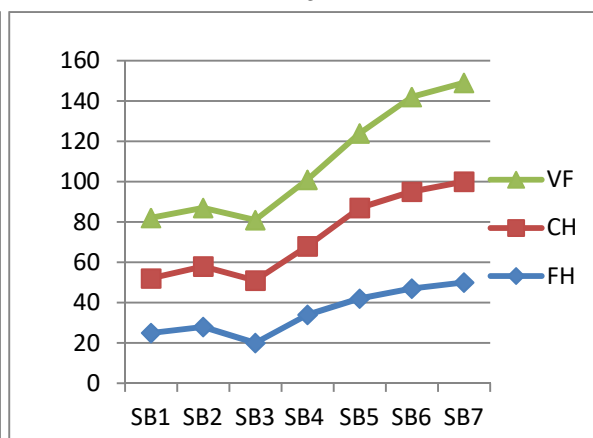
GRAPH 3:



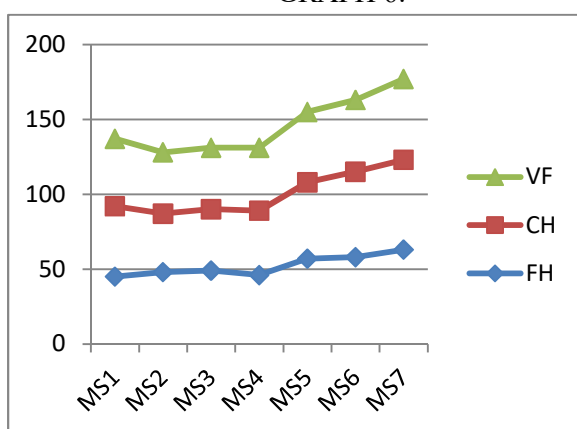
GRAPH 4:



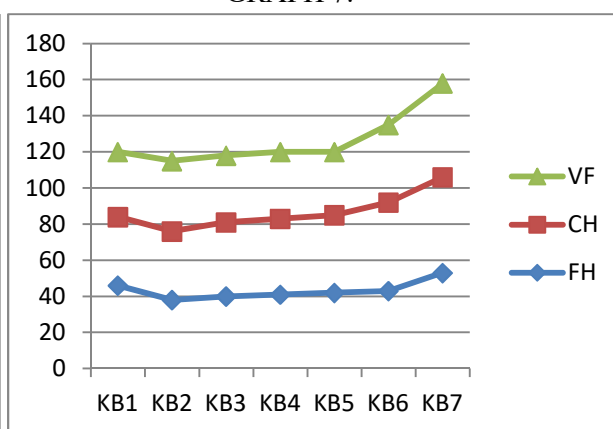
GRAPH 5:



GRAPH 6:



GRAPH 7:



DISCUSSION

The literature suggests that *snehan* does the *bala varna prasadan*, which means internal and external *snehan* gives strength and improves the skin texture and colour. The glossiness is a sign of good skin, nutrition, and good quality of *rasa rakta dhatu*. Hence *snehan* is *poorvakarma* of *Virechana*.

The study was conducted as per the classical guidelines starting with *Poorvakarma*, followed by *Pradhanakarma (Virechan)*, and finally completing with *Samsarjanakrama*.

To support this hypothesis, the gloss meter study was undertaken before and after the treatment on different time points, which showed remarkable changes in gloss meter reading. There was an increase in the level of glossiness on the next day of *virechana*, which is the 2nd time point due to *snehan* and *abhyagam*. Then glossiness level was

continuously inclined as the effect of *virechan* and *snehan*.

As per the classics *Virechan* is the best therapy for the *pitta dosha (Virechanam pittaharanam shreshtam)*. Along with *rechanam* of *pitta dosha* it does the *dhatu samyam* and *dhatu sthiratvam*. Also, it has the same good effect on *upadhatu*, skin is also a *upadhatu* of *mamsa dhatu*. The *bahya abhyangam* done during the *vishrama kala* stimulates the *bhrajaka pitta*, which is responsible for glossiness of skin.

CONCLUSION

The present work was a clinical trial aimed to ascertain the effect of *Virechanakarma* on glossiness of skin on different time points which was performed keeping in mind that the *Virechanakarma* increases the glossiness of skin. The study was helpful in establishing the effect of purgation, i.e.

Virechanakarma on glossiness of skin with the help of *glassometer*, where the study showed marked improvement in skin glossiness after *virechana*. Studies aiming at safe application of other *Panchakarma* therapies can also be conducted using various parameters.

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