A CLINICAL STUDY OF ROOKSHA POORVAKA VIRECHANA KARMA IN PRE-DIABETES W.S.R. TO STHOULYA
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KEYWORDS: Rookshana, Udvartana, Virechana karma, Sthoulya, Pre-diabetes.

ABSTRACT
We are in the era where human is running in short of time in order to achieve his goals and to fulfil his worldly luxurious desires and due to the sedentary life-style, a significant increase in the prevalence of obesity is found in almost all the age groups in the past few decades. Obesity is the major risk factors for numerous chronic diseases like diabetes mellitus.

Pre-diabetes is the precursor stage to diabetes mellitus in which not all of the symptoms required to label a person as diabetic are present, but blood sugar levels are at borderline or little higher than normal range but not high enough to diagnose as diabetes.

The management of Prameha Poorvarupa is explained as Ubhayatashodhana specially in Madhyamvayas. In metropolitan cities like Bangalore person’s life style and food habits causes vitiations of Pitta Dosha. And Virechana is the ultimate kind of Shodhana In Pittaja Vikaras. Hence Vriechana is chosen As Shodhana procedure and to conduct Shodhana. Before conducting Shodhana Rookshana is to be done As Poorvakarma In Mamsala, Medurao, Bhurishlema And Vishamagni Person.

Hence, the study conducted here is in 10 Madhyam Vayas and Pre-diabetes patients, who were subjected to Triphaladi Udvartana which is discussed as Apatarpana yoga in Santarpaniya Adhyaya followed by Virechana. Statistically highly significant results were found in - Ati Trishna, Nidradhikyata, Sweda Adhikya, Angagouravata and Alasya and the objective parameters- body weight, BMI, circumference of hip, abdomen and thigh, skin fold thickness of biceps and triceps (p<0.001).

INTRODUCTION
We are in the era where human is running in short of time in order to achieve his goals and to fulfil his worldly luxurious desires. Hence he is too busy to think and act for healthy life and not able to follow the proper Dietetic Rules and Regulations which are mentioned under Dinacharya and Ritucharya. Due to the sedentary life-style, a significant increase in the prevalence of obesity is found in almost all the age groups in the past few decades. Obesity is the major risk factors for numerous chronic diseases like diabetes mellitus.

Pre-diabetes is the precursor stage to diabetes mellitus in which not all of the symptoms required to label a person as diabetic are present, but blood sugar is borderline or little higher than normal range but not high enough to diagnose it as diabetes. According to international diabetes federation, an estimated 381 million people have diabetes and its prevalence may increase rapidly and by 2030 this number is estimated to be double.

Madhurtara of Amarasa is discussed in Rasanimitajta Sthoulya which is explained in Sushruta sutrasthana[1] is due to Madhura Shleshma Ahara, Adhyashana, Ayyayama, Diwaswapna because of which there can be possibility of dyslipidemia if not treated. If the Nidanas are continued it can lead to Sthoulya and furthere, because of Avarana it can gives rise to Prameha.

In this condition Madhurtara Ama rasa precedes Meha and hence is correlated to pre- diabetes where there is border line increases in sugar level and absence of glycosuria which is one among the diagnostic criteria of Madhumeha.

The management of Prameha Poorvarupa is explained as Ubhayatashodhana [2] specially in Madhya vayas and metropolitan city like Bangalore where people life style and food habits causes vitiated of Pitta dosha. Hence Vriechana is chosen as Shodhana procedure and to conduct Shodhana in Mamsala, Medurao, Bhurishlema and Vishamagni person Rookshana is to be done as Poorvakarma.[3]

Hence, this clinical study was conducted in Madhya Vayas and Pre-diabetes patients were subjected to Triphaladi Udvartana discussed as

**Objectives of the Study**
- To evaluate the therapeutic efficacy of Sarvanga Udvartana and Bashpa Sweda followed by Virechana in Pre-diabetes w.r.to Shoulya.

**Materials and Methods**
- 10 patients of Pre-diabetes coming under the inclusion criteria approaching the OPD and IPD of SKAMCH & RC, Bangalore were selected for the study on the basis of purposive sampling technique.

**Method of Collection Of Data**
- It is open clinical trial with pre-test & post design where in 10 diagnosed of Pre-diabetes patients of either sex were selected for the study.

**Diagnostic Criteria**
- Patient with Lakshanas of Pre-diabetes.
- BMI > 25
- FBS>126mg/dl
- PPBS>200mg/dl

**Inclusion Criteria**
- Patients of either sex aged between 30 to 60 years.
- Patients with Lakshanas of Pre-diabetes.
- Patient who is fit for Rookshana Karma.
- Patient who is fit for Virechana Karma.

**Exclusion Criteria**
- Patients with major systemic disorders that may interfere the course of the treatment

**Investigation**
- FBS, PPBS

**Intervention**
- Patients were subjected to Sarvanga Udvartana and Bashpa Sweda followed by Virechana.
- Udvartana was done with Triphala, Aragvadha, Patha, Saptaparana, Vatsaka, Mustha, Madana, Nimba churna in equal proportion for 14 days for duration of 35minutes followed by Bashpa Sweda.
- After, 14 days of Udvartana, Arohanan Krama Snehopana with Moorchita Ghrita was done till the Samyak Singdha Lakshanas were observed.
- During 3 days of Vishramakala, Sarvanga Abhyanga with Moorchita Tila Taila for duration of 35minutes followed by Bashpa Sweda was done.
- The next day Virechana was given with Trivrut Avalehya followed by Ushna jala, dose depending on the Koshta of the patients, after Sarvanga abhynaga and Bashpa Sweda.
- After Virechana Karma, Samsarjana Krama was advised.

**Assessment Criteria**
- The assessment of the disease was based on subjective and objective parameter before and after treatment as per the proforma.

**Subjective Parameter**
1. **Ati Trishna**
   - Normal thirst - 0
   - Addition to Normal thirst up to 1 liter excess intake of water - 1
   - Addition to Normal thirst 1 to 2 liter excess intake of water - 2
   - Addition to Normal thirst 2 to 3 liter excess intake of water - 3
   - Addition to Normal thirst more than 3 liter intake of water - 4

2. **Nidra Adhikya**
   - Normal sleep 6-7 hrs. at night - 0
   - Sleep up to 8 hrs. at night /day with Anga gaurava - 1
   - Sleep up to 8 hrs. at night /day with Anga gaurava and frimbha - 2
   - Sleep up to 10 hrs. at night /day with Anga gaurava, frimbha and Tanda - 3
   - Sleep more than 10 hrs. at night /day with Anga gaurava, frimbha, Tanda and Klama - 4

3. **Sweda Adhikya**
   - Sweating after heavy work and fast movement or in hot season - 0
   - Profuse sweating after moderate work and movement - 1
   - Sweating after little work and movement - 2
   - Profuse sweating after little work and movement - 3
   - Sweating even at rest or in cold season - 4

4. **Angagourvata**
   - No heaviness in body - 0
   - Feels heaviness in body but it does not hamper routine work - 1
   - Feels heaviness in body which hamper daily routine work - 2
   - Feels heaviness in body which hamper movement of the body - 3
   - Feels heaviness with flabbiness in all over body which cause distress to the person - 4

5. **Aalasya**
   - No Alasya (doing work satisfactory with proper vigour in time) - 0
   - Doing work satisfactory with delayed initiation - 1
   - Doing work unsatisfactory with lot of mental pressure and delayed initiation - 2
   - No starting any work or doing little work very slowly - 3
   - Does not have any initiation and does not wants to work even after pressure - 4

**Objective Parameter**
- Body weight
- BMI
- Hip circumference
- skin thickness fold of Triceps
- skin thickness fold of Biceps
- Abdomen circumference
- Thigh circumference
- FBS
- PPBS
OBSERVATION

- Among 10 patients 60% patients were males, 50% belonged to the age group between 30 to 40 years, 90% were consuming mixed diet, 70% belonged to upper middle class following sedentary life styles and work pattern, with high calorie food intake.

RESULT

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>T Value</th>
<th>P value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ati trishana</td>
<td>1.7</td>
<td>1.005</td>
<td>0.318</td>
<td>5.345</td>
<td>&lt;0.001</td>
<td>HS</td>
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<tr>
<td>Nidradhikya</td>
<td>1.3</td>
<td>1.345</td>
<td>0.4257</td>
<td>3.053</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
<tr>
<td>Swedaadhikya</td>
<td>1.4</td>
<td>0.6633</td>
<td>0.2099</td>
<td>6.66</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Angagourata</td>
<td>1.7</td>
<td>0.4583</td>
<td>0.145</td>
<td>11.72</td>
<td>&lt;0.001</td>
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<tr>
<td>Aalasya</td>
<td>1.4</td>
<td>0.6633</td>
<td>0.2099</td>
<td>6.66</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>

Table 1: Subjective Parameter

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mean</th>
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<th>SE</th>
<th>T Value</th>
<th>P value</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>Body Weight</td>
<td>3.14</td>
<td>1.5586</td>
<td>0.4932</td>
<td>6.366</td>
<td>&lt;0.001</td>
<td>HS</td>
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<tr>
<td>BMI</td>
<td>1.462</td>
<td>1.0337</td>
<td>0.3271</td>
<td>4.469</td>
<td>&lt;0.01</td>
<td>HS</td>
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<tr>
<td>HIP</td>
<td>4.06</td>
<td>2.1991</td>
<td>0.6959</td>
<td>5.834</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>TRICEPS</td>
<td>2.134</td>
<td>1.0013</td>
<td>0.3169</td>
<td>6.735</td>
<td>&lt;0.001</td>
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<td>BICEPS</td>
<td>1.82</td>
<td>0.8192</td>
<td>0.2592</td>
<td>7.021</td>
<td>&lt;0.001</td>
<td>HS</td>
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<tr>
<td>ABDOMEN</td>
<td>3.547</td>
<td>2.8981</td>
<td>0.9171</td>
<td>3.868</td>
<td>&lt;0.01</td>
<td>HS</td>
</tr>
<tr>
<td>THIGH</td>
<td>3.648</td>
<td>2.1097</td>
<td>0.6626</td>
<td>5.464</td>
<td>&lt;0.001</td>
<td>HS</td>
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Table 2: Objective Parameter

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<th>Criteria</th>
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<th>SE</th>
<th>T Value</th>
<th>P value</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>FBS</td>
<td>27.4</td>
<td>11.11</td>
<td>3.515</td>
<td>7.7931</td>
<td>&lt;0.001</td>
<td>HS</td>
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<td>PPBBS</td>
<td>35.2</td>
<td>25.14</td>
<td>7.956</td>
<td>4.424</td>
<td>&lt;0.01</td>
<td>HS</td>
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</tbody>
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Table 3:
The overall results revealed that the effect of Rooksha Udvartana followed by Virechana in Sthoulya on subjective parameters was proved to have statistically highly significant results on Ati Trishna, Swedadhikya, Anga Gouravata And Alasya and significant result in Nidradhikyata. On objective parameters- was proved to have highly significant results on body weight, BMI, skin fold thickness of triceps and biceps, hip, abdomen and thigh circumference, FBS, PPBS.

**Discussion**

Udvartana is having Kapha and Meda Vilayana (9) property. Due to Ushna Tikshna Gunas of Dravya and due to forceful massage effect on Romakopa, the Veerya of the drug enters into body, there after it opens the Mukha of Siras, thereby making the Paka of Kapha and Meda. Due to this, there will be Dravata vrudhi of Kapha and Meda. By this the toxins are eliminated through Romakupa as Sweda. Due to Ruksha guna of Dravya and Ruksha Udvaratana, Kleda gets absorbed (Shoshane ruksha/Hemadri) thus Abaddhatva of Meda and Kapha might have reduced.

In Avaranajanya, the vitiated Kapha, Pitta, Mamsa and Meda obstruct the path of Vata causes Vata Vruddhi. Sanshodhana is the best treatment for elimination of Vruddha Doshas. Vagbhata has mentioned that Doshas should be eliminated through the nearest passage. Virechana is the appropriate Shodhana procedure, which is specific for the elimination of vitiated Pitta dosha.

**Mode of action of Virechana**

Virechana drugs possessing the Ushna, Tikshna, Sukshma, Vyavayi and Vikasi properties reach the Hridaya by virtue of its Virya and then following the Dhamani it pervades the whole body through large and small Srotas. On virtue of its Agneya properties it causes Vishyanadana i.e. oozing of the Dosh and by its Tikshna Guna it is able to disintegrate the accumulated Dosa. Due to Vyavayi and Vikasi Guna the Virechana Drugs rapidly reach to the micro-channel (Anusrotasa) & then penetrate the micro channels with their Tikshna property and scrap off the morbid matter due to Khara property. Virechana Drugs carry out the Virechana due to their Prabhava (potency). These drugs which are having Jala and Prithvi Mahabhuta dominancy have a natural tendency to go downwards and Virechana occurs.

**CONCLUSION**

From the data extracted by the patients, it can be concluded that Rookshana Poorvaka Udvartana followed by Virechana is proved to be beneficial in treating the patients with pre diabetic condition, i.e. Rasa Nimittaja Sthoulya. As it was observed that there was a highly significant in the reduction of the symptoms - Ati Trishna, Nidradhikyata, Sweda Adhikya, Angagouravata And Alasya and the objective parameters- body weight, BMI, circumference of hip, abdomen and thigh, skin fold thickness of biceps and triceps.

**REFERENCES**


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