MATERIALS

Literature study

All available Ayurvedic texts classic modern available text magazines and journals.

Study center

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SUSHRUSHA CLINIC KALYAN

Total no of patient - 632 patients

METHODS

Type of study

Random, open, uncontrolled, Retrospective study

Criteria for selection of patients

Inclusion criteria

Sex- Both males & females

Patient having signs & symptoms of Vicharchika Kshudra-kustra

Age above 20 years

Exclusion criteria-

Patient having skin disorder other than Vicharchika Kshudra-kustha

Pregnancy & lactation

Patient having systemic disorder like Diabetes, Cancer, TB, Hepatitis
Patient having HIV AIDS

Skin disorder due to reaction

**PLAN OF CLINICAL STUDY**

632 Patients will examine suffering from Vicharchika Kshudrakushtha for their causative factor these 632 patient will divide in four groups A.B.C.&D.

1) A group contain patients whose causative factor is sanyog viirrudha number of patients in these group 162 Patients.

2) B group contain patients whose causative factor is vishmashan number of patients in these group 156 Patients.

3) C group contain patients having both causative factor i.e Sanyog virudha and vishmashan number of patients in these group 214 Patients.

4) D group contain patients having other than both causative factor i.e other than causative factor number of patients in these group 100Patients.
Investigations

Following investigations will be done for every patient before starting treatment to rule out the systemic disease.

Blood investigation like Hb gm %, CBC.

Examination of Urine- Routine and Microscopic

Examination stool- Routine and Microscopic.

Clinical Examination

Patients undergoing trial will be examined clinically at every time to maintain a record of the same.

Case Record Form

Record of all the patients included in the trial will be documented and maintained in the case record form. It is attached separately with the synopsis.

Criteria for the assessment of patients. The patients is assessed on the basis of subjective as well as objective criteria. Most of the symptoms and signs of skin disorder Kshudrakushtha described in Ayurveda are subjective in nature hence multi-dimensional scoring systemic adapted for statistical analysis and to give result on objective parameters score was given according to the severity of symptoms as follows

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1). Kandu (pruritus)</strong></td>
<td></td>
</tr>
<tr>
<td>Absent of Itching</td>
<td>0</td>
</tr>
<tr>
<td>Bearable and subside easily</td>
<td>1</td>
</tr>
<tr>
<td>Bearable but disturbs</td>
<td>2</td>
</tr>
<tr>
<td>Persist and disturbs work &amp; sleep</td>
<td>3</td>
</tr>
</tbody>
</table>
2). Strava (Discharge)

- Absent: 0
- Watery discharge occasionally: 1
- Watery discharge frequently: 2
- Pus discharge occasionally: 3
- Pus discharge frequently with above: 4

3). Pidaka

- Absent: 0
- Papulas: 1
- Pustules: 2
- Vesicles: 3
- Blisters: 4

4). Shyavata (discoloration)

- Absent: 0
- Maculas: 1
- Lichenification: 2
- Dyschromia: 3
5) Rukashata (Dryness)

Absent 0
Rough skin before use of moisture 1
Rough skin after use of moisture Sometimes 2
Always rough 3

6) Ruja (pain)

Absent 0
Pain on friction or pressure 1
Pain on touch burning or throbbing 2
Continuous & severe pain 3

Statistical analysis

All the data generated and collected during the study was subjected to statistical analysis to reach to final results and conclusions. Statistical parameters like Kruskal Wallis test, Mann Whitney U test, & Chi square test. Graphical presentation and other statistical methods were applied to the data generated wherever possible to find out significance of improvement.

1) The Kruskal–Wallis

When working with a measurement variable, the Kruskal–Wallis test starts by substituting the rank in the overall data set for each measurement value. The smallest value gets a rank of 1, the second-smallest gets a rank of 2, etc. Tied observations get average ranks; thus if there were four identical values occupying the fifth, sixth, seventh and eighth smallest places, all would get a rank of 6.5.
The sum of the ranks is calculated for each group, then the test statistic, $H$, is calculated. $H$ is given by a rather formidable formula that basically represents the variance of the ranks among groups, with an adjustment for the number of ties. $H$ is approximately chi-square distributed, meaning that the probability of getting a particular value of $H$ by chance, if the null hypothesis is true, is the $P$ value corresponding to a chi-square equal to $H$; the degrees of freedom is the number of groups minus 1.

A significant Kruskal–Wallis test may be followed up by unplanned comparisons of mean ranks, analogous to the Tukey-Kramer method for comparing means. There is an online calculator for computing the Least Significant Difference in ranks.

2) Mann–Whitney Test (U test):

To perform this test, we first of all rank the data jointly, taking them as belonging to a single sample in either an increasing or decreasing order of magnitude. We usually adopt low to high ranking process. In case there are ties, then we would assign each of the tied observation the mean of the ranks which they jointly occupy.

$$U = n_1n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

(Where, $n_1$ & $n_2$ are the sample sizes & $R_1$ is the sum of ranks assigned to the values of the first sample)
3) Chisquare test

Prepair contingency table. In general the expected frequency for cell of the contingency table found by formula.

Expected frequency = \( \frac{\text{row total} \times \text{column total}}{\text{grand total}} \)

Formula for chi square calculation is

\[ \sum \frac{\text{observed frequency} - \text{expected frequency}}{\text{expected frequency}} \]

Refer chi square table for \( p \) value then get a significant report.