ABSTRACT

Introduction: In the assessment of taste Jihwa (Tongue) is the main Organ. Prakruti of a person is depend upon majority of dosha constitution. Here this study is undertaken to assess the taste perception methodology practically. This subject was selected to study. What is the exact role of Bodhaka Kaptha in taste perception Aims and objectives - to study time required for secretion of Bodhaka Kaptha, to study the Threshold (sensitivity) of Madhura Rasa in Kaphadhiyak Prakrti, to confirm the location of Madhura Rasa according to modern texts.

Materials and Methods: Granulated sugar, Distilled water, Plastic cups, Measuring cylinder, Spoon, Blotting paper, Cotton, Dropper, Stop watch, Stirrer etc. This research was done in three ways for determination of - 1. Bodhaka Kaptha secretion time. 2. Threshold of Madhura Rasa. 3. Location of Madhura Rasa on Tongue.

Discussion: Here in this study average Bodhaka Kaptha secretion time in Kaphadhiyak Prakrti found to be 39.75 second. Average threshold of Madhura Rasa in Kaphadhiyak Prakrti is found to be 0.054M and 0.1%. Due to this taste perception of Madhura Rasa felt mainly at the tip of tongue. Conclusion: Bodhaka Kaptha secretion time found to be less in Kaphapitta Prakrti compared to Kaphavata Prakrti. The Kaptha doṣa is formed by Jalamahabhutadhikya Kaptha and having snigdha guruṣa. The pitta doṣa also having sasneha guruṣa. So due to this similar quality of Kaptha and Pittadoṣa, Kaptha doṣa i.e. Bodhaka Kaptha is increased by Samanya vîsesa siddhant.

KEYWORDS: Prakrti, Bodhaka Kaptha, Kaphadhiyak Prakrti, Granulated sugar, Distilled water.
attachment for the dharan (Growth and stability) of sarir. In the assessment of taste Jihwa (Tongue) is the main Organ. Prakruti of a person is depending upon majority of dosha constitution. Here this study is undertaken to assess the taste perception methodology practically. This type of procedure and findings supports the Ayurvedic concept of knowledge of Rasa (taste) at the sight Jihwa (tongue). At this sight Bodhak Kapha (one of the type of kapha Dosha) is present which is taken for assessment criteria for the study. Bodhaka Kapha is responsible for taste perception. This subject was selected to study. What is the exact role of Bodhaka Kapha in taste perception? What are the Threshold of Madhura Rasa and its effect on Bodhaka Kapha in Kaphadhiyka Prakriti?

**AIMS & OBJECTIVES**
1. To study time required for secretion of Bodhaka Kapha.
2. To study the Threshold (sensitivity) of Madhura Rasa in Kaphadhiyka Prakrity
3. To confirm the location of Madhura Rasa according to modern texts.

**MATERIALS & METHODS**

**Selection of Kaphadhiyka Prakrity**:- 40 students of Kaphadhiyka Prakrity were selected considering following criteria.

**a) INCLUSION CRITERIA**:-
1. 40 Healthy male students.
2. Students having kaphadhiyka Prakrity
3. Students having age between 18 to 24 yrs.

**b) EXCLUSION CRITERIA**:
1. Students who are suffering from diseases of oral cavity and any other diseases.
2. Students below 17 yrs. and above 24yrs. of age.
3. Students who are not having Kaphadhiyka prakrti.
4. Female students.

**MATERIALS**
1. Granulated sugar, Distilled water
2. Plastic cups, Measuring cylinder, Spoon, Blotting paper, Cotton, Dropper, Stop watch, Stirrer etc.

**METHODOLOGY**

1. **Assessment of Prakrity**:- Two methods were used
   a) Percentage method
   b) Gradation method

Prakrity pariksha of 130 students was done with the help of Prakritypariksha Proforma and in that 40 Kaphadhiyka Prakrity students were selected. Granulated sugar used in this research was standardized from laboratory.

Kaphadhiyka Prakrity:-
   a) Kaphapitta Prakrity - 27 students
   b) Kaphavata Prakrity - 13 students

This research was done in three ways for determination of –
   o Bodhaka Kapha secretion time.
   o Threshold of Madhura Rasa.
   o Location of Madhura Rasa on Tongue.
Procedure of Bodhaka Kapha secretion Time

2) Threshold of Madhura Rasa\textsuperscript{6,7} - Taste threshold means minimum concentration of solution where one cannot identify the taste of solution. For Threshold of Madhura Rasa two methods were selected.


b) Percentage method: - Told by Essa J. Tawasha. (California)

OBSERVATION AND ANALYSIS After completing the practical research, following readings are observed and analyzed statistically using $3 \sigma$ limit method.

\textbf{Kaph\textidadhikya Prak\textrdtī} -

a. Kaphapitta Prak\textrdtī - 27 students i.e. 67.5%

b. Kaphavata Prak\textrdtī - 13 students i.e. 32.5%

1) Bodhaka Kapha secretion time – Table no.1

<table>
<thead>
<tr>
<th>PRAKR\textrdtī</th>
<th>Bodhaka Kapha</th>
<th>Secretion time</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30sec</td>
<td>40sec</td>
<td>50sec</td>
</tr>
<tr>
<td>Kaphapitta</td>
<td>3</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Kaphavata</td>
<td>-</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Kaph\textidadhikya</td>
<td>3</td>
<td>35</td>
<td>2</td>
</tr>
</tbody>
</table>

As shown in above chart mode of Bodhaka Kapha secretion time in Kaph\textidadhikya Prak\textrdtī is found to be 40 second. Average Bodhaka Kapha secretion time in Kaph\textidadhikya Prak\textrdtīs found to be 39.75 second. Average Bodhaka Kapha secretion time in Kaphapitta Prak\textrdtīs found to be 38.88 second. Average Bodhaka Kapha secretion time in Kaphavata Prak\textrdtī is found to be 41.53 second.

2) Threshold of Madhura Rasa: - Table no.2

<table>
<thead>
<tr>
<th>Prak\textrdtī</th>
<th>Threshold by Dilution method</th>
<th>Total</th>
<th>Threshold by Percentage method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8\textsuperscript{th} dilution</td>
<td>9\textsuperscript{th} dilution</td>
<td>10\textsuperscript{th} dilution</td>
</tr>
<tr>
<td>Kaphapitta</td>
<td>0</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Kaphavata</td>
<td>5</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Kaph\textidadhikya</td>
<td>5</td>
<td>18</td>
<td>17</td>
</tr>
</tbody>
</table>

By Dilution method

The average threshold of Madhura Rasa in Kaph\textidadhikya Prak\textrdtī is found to be 0.054 M.

By Percentage method

Here threshold has calculated in mole. So for calculating threshold following formula used – e.g. For 9\textsuperscript{th} dilution i.e., 5gm sugar + 260ml of water.

$\frac{260ml}{1000ml} = 0.26$ gm

= 5000/260 = 19.23
The molecular weight of sugar is 342gm.
19.23/342 = 0.056M
In this study threshold of Madhura Rasa in Kaphādhikya Praṇāti By 1st method ranges from 8th dilution to 10th dilution and By 2nd method ranges from 1% to 0.01%, which is similar to the threshold told by Shivcharan Dhyani and Essa J. Tawasha. i.e. By Shivcharan Dhyani threshold of Madhura Rasa ranges from 0 – 1400 ml. By Essa J. Tawasha threshold ranges from 1% - 0.01%.

3) Location of Madhura Rasa on Tongue- Table no.3

<table>
<thead>
<tr>
<th>Location Prakṛti</th>
<th>TIP</th>
<th>POSTERIOR</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaphapitta</td>
<td>19</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Kaphavata</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Kaphādhikya</td>
<td>29</td>
<td>11</td>
<td>40</td>
</tr>
</tbody>
</table>

Kaphadhiyak prakṛti : Out of 40 students of Kaphadhiyak prakṛti -29 students felt the sweet taste at tip of tongue i.e. 72.5% -11 students felt the sweet taste at posterior part of tongue i.e. 27.5%
Kaphapitta prakṛti : Out of 27 students of Kaphapitta prakṛti, -19 students felt the sweet taste at tip of tongue i.e. 70.37% -8 students felt the sweet taste at posterior part of tongue i.e. 29.63%
Kaphavatatapraṇāti : As shown in chart out of 13 students of Kaphavata prakṛti, -10 students felt the sweet taste at tip of tongue i.e., 76.93%, -3 students felt the sweet taste at posterior part of tongue i.e., 23.07%

DISCUSSION

Here in this study average Bodhaka Kapha secretion time in Kaphadhiyak prakṛti found to be 39.75second. Bodhaka Kapha secretion time found to be less in Kaphapitta prakṛti compared to Kaphavata prakṛti. The Kapha doṣa is formed by Jalamahabhutadhikya and having snigdha-guṇa. The pitta doṣa also having sasneha guṇa. So due to this similar quality of Kapha and Pittadoṣa, Kapha doṣa i.e. Bodhaka Kapha is increased by Samanya vīsesa siddhant. Average threshold of Madhura Rasa in Kaphadhiyak prakṛti is found to be 0.054M and 0.1%. By both these methods threshold of Madhura Rasa found to be higher in kaphavata prakṛti than the Kaphapitta prakṛti. Here Kaphapitta prakṛti is more sensitive to Madhura Rasa than Kaphavata prakṛti. Acc. To modern science threshold of sweet taste is 0.01M. Due to this taste perception of Madhura Rasa felt mainly at the tip of tongue. In some cases it felt at posterior part of tongue.

CONCLUSION:

According to Modern science, the organs for taste or gustatory are taste buds. Taste bud is a bundle of taste receptor cells. There are different taste receptor cells present for different taste i.e. Sweet receptor cells, Salt receptor cells, Sour receptor cells, and Bitter receptor cells. The Sweet receptor cells are majorly found at the tip of tongue and also found in other part of tongue but in less number. So due to this taste perception of Madhura Rasa felt mainly at the tip of tongue. In some cases it felt at posterior part of tongue.

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