Introduction

Ayurveda is science of life. During ancient time it was only stream of medical science in India. In that era ‘Guru Shishya parampara’ was in existence for learning Ayurveda. Guru use to teach from basic principles to applied clinical aspect. There were no fix compartments like pre, para or clinical subjects. While teaching a
USE OF VERTICAL INTEGRATION FOR TEACHING OF BASTI CHIKITSA FOR THIRD BAMS STUDENTS FOR EFFECTIVE LEARNING

disease Sharir, Nidana, Yamana, Chikitsa sutra, Rasakalpa and Dravya, gurus use to teach students which included all aspects like basic principles to higher clinical treatments. As in modern era Syllabus of Vertical integration is an innovative concept in medical education. Integration can be inter disciplinary or intra disciplinary. Same curricular level integration is horizontal integration. While different curricular level integration is vertical integration. Vertical Intergration method is beneficial for learning Ayurveda science. As vertical integration is from basic principles to clinical subject it will surely add up the knowledge of student is. It deals with life as a whole. Ayurveda physician has to think human life as a whole for treating patient. This thought process needs knowledge of basic subjects as well as clinical knowledge.

In ancient age tradition for final diagnosis and treatment but in modern university pattern as syllabus division is based on modern science, students learn Anatomy and Physiology in first year that is basic curriculum. Panchakarma is a clinical subject taught in final year. Panchakarma subject consists of different procedures. For these Panchakarma procedures basic knowledge of Sharir that is Anatomy and Physiology and of different medicines and formulations that is Dravyaguna and Rasashastra may prove helpful. Basti resembles enema treatment. Administration of Basti is a skill. Includes left lateral positioning of, Specific drug formulations for different diseases. For absorption of active principles of herbal drugs in body. The ingredients and their mixtures should be prepared in a particular manner, specific diet pattern has to be followed during treatment. So administration of Basti includes variety of Knowledge. Detail knowledge of concerned preclinical subjects will increase confidence in students. Panchakarma is taught in final year’s curriculum of Ayurveda UG syllabus. Basti is one of the important procedures of Panchakarma which resembles to enema therapy. If student learn anatomy and physiology while learning topic of this Basti chikitsa they understand better the concept of Basti. Different herbo-mineral formulations, decoctions, honey, medicated oils are used as a
form of mixtures for preparing Basti. They are taught in basic curriculum in Dravyaguna and Rasashastra subject. Currently Panchakarma faculty teach all these subjects. But if Sharirrachana, Sharirkriya, Dravyaguna and Rasashastra faculty teach along with Panchakarma faculty may prove beneficial. If we include these subject experts for training Basti chikitsa from first and second year, students will get a better idea of the subject. Vertical integration application may prove beneficial. So title for project ‘vertical integration for training of Basti chikitsa to improve learning.’ was selected but IEC suggested change in the project title. So new title was ‘Vertical integration for teaching of Basti chikitsa to improve learning.’ was finalised.

**Research question**

Will vertical integration for teaching basti chikitsa improve learning?

**Overall goal**

Students of final year of Ayurveda will learn Basti chikitsa in more effective manner so that they can serve society in better way.

**Specific objectives**

Evaluate weather vertical integration method prove more effective in learning Basti chikitsa and they gain more knowledge that is improving their cognitive domain.

**Methodology for Vertical integration**

Two groups of final year UG students were formed. Thirty students were in each group.

- **Group A** - Students were taught by traditional method
- **Group B** - Students were taught by vertical manner

One day workshop was arranged of vertical integration for teaching Basti chikitsa of subject Panchakarma. Special timetable was prepared for the vertical integration workshop. Four lectures of subject Sharirrachana, Sharirkriya, Dravyaguna, Rasashastra were taken by professors and HODs of these departments to group B. Same topics of Basti chikitsa were taught by Panchakarma faculty as they conduct traditional way.

Topic of Applied Anatomy, Applied Physiology, Significance of different types of Basti drugs and preparation were allotted to subject experts participating in Project.
Evaluation –
Assessment of Effectiveness of vertical integration was done with the help of
• Feedback form from students was taken from group B about their opinion of vertical integration teaching method.
• MCQ test was taken
• SAQ was taken
• Structured VIVA was taken
Same questions were asked to both the groups
Result was obtained by comparing the marks of both the groups

Result-

<table>
<thead>
<tr>
<th>Unpaired t-Test for Comparison between two methods.</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Difference</td>
</tr>
<tr>
<td>SAQ_Score</td>
<td>-2.70000</td>
</tr>
<tr>
<td>VIVA_Score</td>
<td>-2.26667</td>
</tr>
<tr>
<td>MCQ_Score</td>
<td>-1.43333</td>
</tr>
</tbody>
</table>

We can conclude that, the average SAQ Score, VIVA Score and MCQ Score is observed significantly more in vertical method than traditional method.

DISCUSSION –
Group B of vertical integration scored more marks than group A of traditional method as students of group B got knowledge of applied Anatomy and Physiology.
They could answer the questions with reasoning as they learned significance of Basti procedure from expert faculty from pre clinical year.

It was observed that due to Lectures of Dravyaguna and Rasashastra students got clear idea about significance of different drug formulations and mixtures, as compared with group A group B learned significance and reasoning of the topic. This was speciality in vertical integration.

Students asked questions and got answers to all these questions. This showed that they were involved in topic and provoked for thinking.

Students felt that they really gained new ideas and knowledge than to learn from standard format. Some students expressed that they will like to learn more topics in this vertical integration method.

Assessment showed that students who were in traditional group of teaching could answer the questions about formulations of basti and combinations correctly, but they could not answer questions related to Sharir. This indicates that vertical integration of Sharir ie Anatomy and physiology is a need and beneficial for students as they learn new concepts.

For teaching in vertical pattern the expert faculty also took special efforts. It was a very good experience. They also got the stimulus to study their topic in clinical manner.

As basti chikitsa is a skilled treatment, with clear vision and deep knowledge students can prescribe and administer it confidently and serve society in better way.

**Conclusion**

Vertical method proved to be more effective than traditional method of teaching Basti chikitsa. From experience of this workshop it can be said that in all skilled therapy teaching Vertical integration proves to be more beneficial.

**REFERENCES—**

- Dahle LO, Brynhildsen J, Behrbohm Fallsberg M, Rundquist I, Hammar M. Pros and cons of vertical integration between clinical medicine and basic science within a problem-based undergraduate medical curriculum: examples and experiences


- Harden Ronald M The integration ladder: a tool for curriculum planning and evaluation Ó Blackwell Science Ltd MEDICAL EDUCATION 2000;34:551±557

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**Corresponding Author:**
Dr. Sole Aparna Prasanna
Associate Professor, Department of Kayachikitsa, Ashtang Ayurved Mahavidyalaya, Pune
Email: aparnasole@gmail.com