

## Integrated Teaching In Internal Medicine: A New And Innovative Approach

B.L. Bamboria\*, Vishal B. Surwade\*\*, Aditya Bamboria\*\*\*, Alka Bamboria\*\*\*\*, Habib Ur Rehman\*\*\*\*\*

\* Associate Professor, Department of Medicine, \*\* Assistant Professor, Department of Forensic Medicine, \*\*\* Medical Intern, \*\*\*\* Research Scholar, Dietary Department, \*\*\*\*\*Assistant Professor, Department of Bio- Statistics, R.D. Gardi Medical College, Ujjain, 456006 (M.P) India

**Abstract:** Background: The purpose of the study was to highlight the alarming condition with respect to the declining standards of Indian Medical Graduates day by day. Integrated teaching can be taken as a tool to address this problem. Methods: A small group of students and subjected them to integrated teaching of the topic “Liver diseases in Internal Medicine”. Integration of theory and practical on the same day was our initiative to test the retention capacity of the students in internal Medicine. A common questionnaire was used as pre & post training test for control groups as well. Result: The group which was subjected to integrated teaching was proved to be far superior than all control groups. Conclusion: It can be concluded that excellent student-participation and interest, integration of Theory and Practical classes in Internal Medicine became easy, new and innovative way of integrated teaching. [B Bamboria NJIRM 2017; 8(6):36-40]

**Key Words:** Indian Medical Graduate,integrated teaching, Medicine, Theory and Practical

**Author for correspondence:** Vishal B. Surwade, C/O Dr.B.L.Bamboria, B-21/1, Mahananda Nagar, Near Birla Hospital, Ujjain – 456001 M.P. E-Mail: dr.vishalsurwade@gmail.com M: 0942007444

**Introduction:** As per policy of the Government of India, Medical Council of India (MCI) guidelines, national and international needs, we have to prepare excellent trained and skilled Indian medical Graduates to provide basic health care needs at grassroots level of community.

“The First line Physician to Community”.<sup>1</sup> To achieve this novel goal, “Internal medicine” is a key subject, as our present traditional medical education system is not producing the desired good quality Indian medical graduates.

Our Medical graduates are facing problems of discrimination in medical jobs and admission in Post graduate course at various international Universities.

To overcome this setback, MCI is paying maximum emphasis on integrated teaching in graduate medical education curriculum.

In broad sense, integration involves several subjects and teaching of a single topic in a coordinated and joint manner at a same time, which will give maximum teaching learning retention rates.<sup>3</sup>

Integration may be of two types –Horizontal integration and vertical Integration.

**1) Horizontal integration:** it means that two or more departments teaching concurrently, merges their education identities on a single topic.

**2) Vertical Integration:** it is integration between disciplines traditionally taught in the different phases of curriculum.

But for an individual subject, the meaning of integration is different.

The coordination between theory and practical clinical classes in Internal Medicine is not proper. It is disjointed and fragmented with a gap of days, months and even semesters.

There is no co-ordination between theory and practical clinical postings, as per institutional time table of Internal Medicine and its allied subjects (Pulmonary medicine, Dermatology and Psychiatry) also.

**So with this background we implemented our new and innovative project:** “Integrated teaching in Internal Medicine-Theory and Practical classes on the same day”

For maximum teaching and learning retention rates in Internal medicine.

**Method:** An institution based intervention study was carried out at a private tertiary care teaching institute of Madhya Pradesh -R.D.Gardi Medical College, Ujjain under Madhya Pradesh Medical Sciences University, Jabalpur, MP.

The study was approved by institutional ethic committee. Informed consent forms were administered to second year MBBS (5<sup>th</sup> semester) students (n=27) before exposing them to the integrated teaching in Internal Medicine.

For this study, 27 students, out of 106 students (1:4) of the year 2013 main batch were taken by random selection and finalized after their written consent for participation.

After knowing that Pathology and Pharmacology department has completed their classes on Liver diseases that we decided the Topic-“Liver Diseases” in medicine practice for integrated teaching in Internal Medicine.

Our main emphasis was that the theory and practical classes to be conducted on the same day in Medicine. As it is the best way of Integrated Teaching in Internal Medicine

We plan for total 10 classes of 60 minutes to 90 minutes during college time in the department of Medicine and Medical Wards on the cases of Jaundice, Hepatomegaly, Cirrhosis, Ascites, Splenomegaly, Liver abscess, Malignancy and Gall Bladder diseases etc.

The Theory classes were taken by the faculty members of the medicine department in the morning lectures. The practical clinical classes of the same topic case were taken by us in the medicine ward on the same day.

On every case, we taught the students:

- 1) How to take a good relevant history.
- 2) How to perform various clinical examinations.
- 3) What will be our plan of investigation in these diseases.
- 4) Interpretation of clinical history and examination findings.
- 5) How to make a provisional diagnosis.
- 6) How to come to conclusion of Final Diagnosis.
- 7) How to manage a specific case.

**Time table of integrated teaching on  
“Liver diseases in Internal Medicine”**

- Day 1: Project introduction, information letter, consent letter and pre training test
- Day 2: History taking of Liver diseases case, general and systemic examination of per abdomen.
- Day 3: Clubbing, edema and Ascites examination and interpretation.
- Day 4: History taking of jaundice patient, bilirubin metabolism and interpretation of LFTs reports.

- Day 5: Alcoholic liver disease and cirrhosis.
- Day 6: Examination of splenomegaly case and plan of investigation.
- Day 7: Cirrhosis and Portal hypertension, Anatomical, Physiological, Medical and Surgical aspects.
- Day 8: Management of Hepatic coma in ICU
- Day 9: Amoebic and Bacterial Liver abscess, Diet plan in Liver disorders.
- Day 10: Post training test along with control groups I, II & III
- Control group I: Students of 2013 batch (same semester batch)
- Control group II: Students of 2012 batch (7<sup>th</sup> semester batch)
- Control group III: Students of 2011 batch (9<sup>th</sup> semester batch)
- Control group IV: 2<sup>nd</sup> year PG students of Department of Medicine

A Questionnaire was designed having 20 questions and each question had five short answer means 100 answer and total 100 marks.

This includes the Anatomy, Physiology, Pathology, Pharmacology, Clinical Medical examination, Skill, Investigation plan, Diagnostic criteria and Management of various common Liver diseases.

Same questionnaire was used for pre and post training test for IT batch and for all I, II , III and IV Control groups including UG and PG students.

**Observation:** Our Integrated teaching batch students belong to MBBS 2013 batch in 5<sup>th</sup> semester.

The Control group I belong to the student of same (2013) batch with traditional medical teaching methods.

Control group II consists of the students of 2012 MBBS batch (7<sup>th</sup> semester).

Control group III consists of the students of 2011MBBS batch (9<sup>th</sup> semester)

Control group IV consists of 2<sup>nd</sup> year PG students from the department of Medicine working as Junior Residents.

**Table 1: Comparison between pre-and post-test scores of 2013 main batch**

2013 Main Batch	Paired T test					
	Mean	S.D.	Max-Min	T test	Df	P value
Pre-test	39.67	6.65	51-25	18.860	26	0.001
Post-test	73.44	8.79	86-52			

SD: Standard deviation, df: Degree of freedom

**Table 2: Comparison between Group I, II, III, IV and post training students**

	Independent sample t test					
	Mean	S.D.	Max-Min	T test	Mean difference	P value
Post training Group	73.44	8.79	86-52	0.664	38.97	0.025
Group I 2013 Main Batch	34.47	13.40	55-9			
Post training Group	73.44	8.79	86-52	1.087	38.50	0.021
Group II 2012 Main Batch	34.50	10.17	51-16			
Post training Group	73.44	8.79	86-52	0.247	31.69	0.05
Group III 2011 Main Batch	41.75	11.47	85-18			
Post training Group	73.44	8.79	86-52	2.156	10.59	0.004
Group IV PG Students	62.85	7.60	75-52			

SD: Standard deviation, df: Degree of freedom

From the table 1 & 2, it is clear that the ultimate objective of medical education in this era is to bring new perspectives on content, process, extent and evaluation of the medical curriculum. In our study, the students of MBBS 2013 Batch felt positively and the results were encouraging as compared to all the control groups.

#### Discussion:

- Declining standards of Indian medical graduate at national and international platforms is a major concern for medical teaching faculty.
- Present traditional medical education system is not giving satisfactory outcome in the form of excellent teaching-learning retention rates.
- As a medical teaching faculty we are paying much more attention and time for didactic lectures for every subjects including Internal medicine.
- Pyramid of average teaching learning retention rates are:
  - Lectures-5%
  - Reading-15%
  - Audiovisual-50%
  - Demonstration-30%
  - Group discussion-50%
  - Practice by doing-75%
  - Teaching to others-90%
  - But our Aim is 100%

- Medical educationists realized that there is need for integrating basic and clinical medical branches.<sup>2</sup>
- Integrated curriculum has been used worldwide by Medical faculties to teach<sup>3,4,5,6,7,8</sup>
- Many previous studies show better learning results as compare to traditional teaching.
- Study of Kadam and Sane<sup>9</sup> the statistical comparison between the evaluation after integrated and traditional lecture has not shown significant impact of integrated lectures.
- In Internal medicine we are teaching theory and practical clinical classes in a fragmented and disjoint manner.
- MCI had made the integrated teaching as a compulsory component of graduate medical education curriculum.
- Many honorable teaching faculty done a lot of pilot study on horizontal and vertical integrated teaching and their results were significantly good encouraging and innovative, but there is a big limitation in horizontal and vertical IT. That is a merger of educational identities of various department and faculty egos.

**In our study, the students felt a positive attitude of integrated teaching:**

1. IT enhances the students understanding of the topic.
2. IT is interesting.
3. IT has positive interaction between clinical and Pre and Paraclinical subjects.
4. It improves our confidence.
5. IT improve our clinical skill and history taking.
6. IT also improve the appreciation and application of basic science knowledge.
7. IT should be continued in future in all classes.

Above students attitude were similar to various other studies by Dandannavar at Karnatka<sup>10</sup>Nikam and Chopade at Mumbai<sup>11</sup>Soudarssanane and Sahai at JIPMER<sup>12</sup>Kumari et al at Bangalore<sup>13</sup>

So our study in focused on an individual subject i.e. The Internal Medicine, with aim of integration of Theory and Practical clinical classes at the same day. A totally new and innovative concept and results are statistically extremely significant.

No significant comparative data could be found in Indian as well as foreign literature.

**Limitations:**

1. Only small group of students (20-25) will be benefited by a single faculty member.
2. Other batch students feel jealous, discriminated, inferiority complex and bias.
3. Support and participation of the other department become less and less.

**Conclusion:** On the basis of very good encouraging results, excellent student-participation and interest, integration of Theory and Practical classes in Internal Medicine became easy, new and innovative way of integrated teaching.

**Recommendations:**

1. **At Institution Level:** our RD Gardi Medical College is a 150 seated medical college. Total 450 students are posted in Medicine at a time. There are 18 faculties' members in the Department of Medicine. If one faculty member takes one batch of 25 students (25x18=450 students).In this way, we can benefit to all students of our institution.

2. **National Level:** In the same way, we can trained our all future Indian medical Graduates, well skilled qualified doctor.
3. **International Level:** same plan can be implemented worldwide also.

**Future Action Plan:-**

1. Control group I which has traditional teaching would be introduced to IT.
2. Continue IT on the other topic of internal medicine like CNS, CVS, R/S and Endocrinology.

**Acknowledgement:** We are very thankful to Medical Director, Dean, All faculty members of Department of Medicine and Chairperson of Medical Education Technology team at R.D. Gardi Medical College, Ujjain for their constant support and encouragement.

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Conflict of interest: None
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Funding: None
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Cite this Article as: B Bamhoria, Vishal S, Aditya B,Alka B, Habib R. Integrated Teaching In Internal Medicine: A New And Innovative Approach. Natl J Integr Res Med 2017; 8(6):36-40
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