



## Background

Pharmacists work closely with doctors at the hospital. Last year, we integrated the three basic science disciplines (anatomy, physiology and biochemistry) in a course with 12 credits in order to introduce inter-professional education (IPE) in the first year Bachelor of Pharmacy curriculum with that of the MBBS curriculum. These two cohorts of students have comparable academic background and pace of learning. The aim of this study is to incorporate IPE in the first year of Bachelor of Pharmacy as part of whole IPE pharmacy curriculum.

## Methods

We matched the core topics and learning outcomes of the lectures and practical sessions of these three basic sciences in the first year B.Pharmacy curriculum with those of the first year MBBS curriculum. We integrated these topics in the Introduction of Arts and Sciences of Medicine (IASM) of MBBS Year 1 curriculum and introduced IPE particularly through problem based learning (PBL), with 8 MBBS and 2 B.Pharmacy students in each PBL tutorial group. Through this, we aimed to encourage early network building and maintain interactive working relationship with future partners in the medical profession. The IASM taught anatomy, biochemistry, physiology, genetics, pathology and microbiology in whole class lecture and practical sessions, as well as in four PBL cases. B.Pharmacy students attended 38 relevant lectures, 2 PBL case and 4 practical sessions with MBBS students. In addition, B.Pharmacy students attended 8 specialized lectures on biochemistry and another 8 on physiology so as to meet the accreditation requirement of the pharmacy degree. They had 4 continuous assessments and 2 final examination papers.

## Results

The pharmacy students experienced a more enriched and comprehensive learning environment since they interacted and learned with MBBS students. We implemented IPE in whole class session and also in small group environment through PBL. We streamlined the teaching course and reduced duplication in anatomy (100%), biochemistry (50%) and physiology (50%).

### Integrated Course in Basic Sciences: Anatomy, Physiology and Biochemistry

Education Division	No. of teaching hours			
	Lecture (L)/Tutorial (T)/Exam (E)	Practical Sessions	PBL (2 cases)	Supplementary Teaching
Anatomy	15(L) + 2(T) + 1(E)	9	Case 2 of IASM: BMI: 6	0
Physiology	10(L) + 2(T) + 1(E)	0	Case 3 of IASM:	8
Biochemistry	17 (L)	3	Thermoregulation: 6	8
Total no. of teaching hours	48	12	12	16
Grand Total	<b>88 hours</b> *[102 hours when Anatomy, Physiology and Biochemistry teaching are done separately]			

The assessments of Anatomy/physiology and biochemistry were done separately in order to provide some flexibility and emphasis in the format of the exams. This process allowed specific differentiation of the Bachelor of Pharmacy students from the MBBS.

## Conclusion

We strongly recommend the early integration of basic sciences in professional degree since it provides a more enriched and comprehensive learning experience with the benefit of IPE and early network building.