

Original article:

Changes in perception about anatomy subject after 1st year of medical course.

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Abstract

Introduction:- Study of human anatomy is the first step taken by students in the long road to become a successful medical practitioner. Students enter the medical course holding certain views about the subject of Anatomy, which changes over the subsequent one year of study. These changes are brought about by vast syllabus, limited teaching period and professional collage environment. The study investigated these changes which occurred in the perceptions about the subject of Anatomy in 1st year medical students.

Methods:- A 7 question survey targeted 100 students enrolled in 1st year of medical course at the beginning of the session (1st assessment). The same survey was again done at the end of the teaching year (2nd assessment) and the difference in opinion was recorded.

Results:-The difficulty level of anatomy as perceived by students, decreased along the course of one year. The knowledge of Anatomy was important for clinical practice according to majority of students. The time frame of one year was inadequate to study anatomy effectively.

Conclusion:- Anatomy is an important subject for clinical practice and the 1st year of medical course inadequate to cover the subject. Anatomy must be taught in the subsequent years for a effective clinical outcome.

Keywords:- Anatomy, students, Dissection, Clinical practice

Introduction

Human Anatomy is the study of structure of human body. It has been the foundation of medical education since ages. It is the first subject which newly admitted students of medical course come in contact with. The study of human body even though taught at pre medical level, is superficial and follows a different outlook. There is spoon feeding type of approach in this outlook with emphasis on scoring higher grades than its application [1]. Students enter the medical course holding the same outlook and a dream of becoming

a successful medical practitioner. But the professional educational environment is very much different than the traditional school and junior college environment. Medical school's learning orientation has a solid scientific basis with its practical implementation on patients in long run [2]. In recent years, human anatomy has been slowly squeezed from the medical curriculum. The medical council of India in 1997 reduced the teaching period of anatomy to 1 year [3]. Since the last 40 years, many authors have highlighted the decline in undergraduate knowledge of anatomy

amongst the surgical community [4,5,6]. It is very difficult to assess objectively whether this reduction in anatomy teaching has been excessive. However, the few studies that have been conducted suggest that the knowledge of the qualifying doctor is now below an acceptable level.[7,8]

The state medical university specifies a vigorous teaching of not less than 650 hours for the subject of anatomy [9]. Generally the medical colleges follow an alternate day, 7 hours of teaching human anatomy. The students are immediately pushed in this tight schedule as the syllabus has to be completed in the subsequent 7-8 months which includes one vacation period and two examinations. The students are subsequently given a preparatory leave of one month followed by university examination. Apart from the exhaustive teaching hours the students also have to deal with adjusting and adapting to the new college and hostel life. The teaching of anatomy includes lectures, dissection, demonstration and histology practicals. The medical council of India recommends that, lectures should not be more than 1/3rd of the teaching hours [3]. But the importance of remaining 2/3rd teaching hours cannot be ignored. Understanding is achieved by lectures while dissection and practical's cement the knowledge obtained in lectures. Lectures when supplemented with audiovisual aids impart better clarity and learning [10,11]. Surgeons advocate experience with dissection not only helpful to learn anatomical detail but to familiarize students with the variation in anatomy [12].

Few authors have studied the changes in the outlook of students about anatomy. The present study was undertaken to understand the changes in perception about the subject of anatomy from the initial stage of excitement (early days in 1st year

medical course) to the last stage of anxiety (days before 1st year medical university exams).

Methods

Permission was obtained from the concerned authorities regarding the study. Freshly admitted students of Lokmanya Tilak Municipal Medical College & General Hospital were then approached and requested to participate in the study. They were asked to consent to the study if they were interested. Total of 100 students were enrolled. They were given instructions about filling the questionnaire. No identity was to be revealed in the questionnaire and no multiple markings were allowed. The students were given the questionnaire (1st assessment) and requested not to consult their colleagues while answering and respond freely and fearlessly. The questionnaires were collected back and analysed. At no point were the students told about the nature of the study.

The following questions were asked

- 1) Difficulty level of Anatomy.
- 2) Is Anatomy an interesting subject?
- 3) Importance of anatomy in clinical practice.
- 4) Importance of anatomy to understand other medical subjects.
- 5) Is the time frame of 9 months adequate to learn anatomy?
- 6) Preferred teaching aid in Anatomy.
- 7) You will study/ have studied Anatomy for.

The similar questionnaire was again given to the students (2nd assessment) after a period of ten months when the syllabus of anatomy was completed and the final examinations were scheduled in the next 15 days. The questionnaire was collected and the difference in the options ticked by students were analysed.

Results

The following results were obtained

Structured queries	Response	1 st assessment	2 nd assessment
Difficulty level of Anatomy?	Very difficult	72	07
	Difficult	28	62
	Normal	00	31
	Easy	00	00
Is Anatomy an interesting subject?	Very interesting	15	19
	Interesting	85	66
	Boring	00	15
Importance of anatomy to understand other medical subjects	Very important	38	35
	Important	62	65
	Not important	00	00
Importance of anatomy in clinical practice	Very important	75	82
	Important	25	18
	Not important	00	00
Is the time frame of 9 months adequate to learn anatomy	Yes	00	3
	No	100	97
Preferred teaching aid in Anatomy	Lecture	6	00
	Dissection	92	80
	Demonstration	2	20
You will study/ have studied Anatomy for	Use in clinical practice	100	68
	To pass examination	00	32

Discussion

This study which assessed the changes in perception from a student's perspective is the first of its kind to be conducted. At the beginning of the course the mere look of the books of gross anatomy, neuroanatomy, embryology and histology brings a perception of the subject to be very difficult. In the current study at the 1st assessment 72% of students perceived it to be very difficult which changed to 7% at the end of the course. Many studies have reported Anatomy to be a difficult subject at the undergraduate level [13,14,15]. In the current study old-style medical training was used but still the student's perception

decreased to difficult from very difficult. This was because not all that is written in the book is expected from first year medical students. The professional colleges have syllabi outlining the level of anatomical knowledge that they expect from their students when examined [16]. Some leading anatomists have put together some guidelines on an anatomy curriculum which they feel any independent medical practitioner should know.

At the first assessment all the students perceived anatomy to be interesting with 15% recording it to be very interesting. At the end of the year majority still perceived it to be a interesting with 15%

recording it to be boring. The diminished interest might be because of the traditional style of teaching and also due to external factors like load of other subjects, college and hostel life.

All the students agreed anatomy to be important for understanding other medical subjects and also in clinical practice. The perception remained same in both the assessments. Many previous studies have highlighted the importance of anatomy in clinical practice [17,18]. Majority of students believed that the time frame of 9 months is not adequate to learn Anatomy. During the 2nd assessment 3% of students felt it to be adequate. Nagar et al recorded 60% of students as finding the time inadequate while Biswas recorded 90.6%.

Dissection was the preferred teaching aid in anatomy with 92% at the 1st assessment to 80% at the 2nd assessment. 6% of students reported lectures as the preferred teaching aid at the 1st assessment but it decreased to 0% at the 2nd assessment. Almost all the previous studies had reported dissection as the preferred teaching aid. Dissection enhances learning and confidence in the subject matter. Johnson J. H. [20] found that examination performance as well as personal satisfaction was enhanced on the part that was dissected. At the 1st assessment when the students were asked about the

reason for studying anatomy, 100% students replied that it was for clinical practice. But at the 2nd assessment 32% of students changed their reply as, just to pass 1st year medical exam. This change in perception is due to the inadequate time frame, which compelled the students to change their method to exam oriented rather than clinical oriented.

Conclusion

The excitement of wearing a apron, holding a scalpel and dissecting cadavers, is short lived for students as they are bundled upon the heavy volumes of preclinical subjects especially anatomy. Even though all the studies so far have stressed the importance of Anatomy in clinical practice, it's time frame and syllabus both have been reduced. The dream of students reading the subjects from a clinical point of view is time consuming. So the students in reality change to exam oriented reading. This indicates the need to reevaluate the curriculum and to increase the duration of time allotted to the subject. A core of knowledge must be assimilated by all students during 1st year. But the process should not stop there and should continue with the other specific subjects throughout medical school and beyond.

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