

DIFFICULTIES MEDICAL STUDENTS OF PLEVEN MEDICAL UNIVERSITY FACE IN STUDYING ANATOMY

**Rumyana I. Davidova,
Petya K. Mushatova,
Stilyanka D. Yochkova,
Mihail E. Iliev**

*Department of Anatomy, Histology
and Cytology,
Medical University-Pleven*

Corresponding Author:
Rumyana I. Davidova
Dept. of Anatomy
Medical University-Pleven
1, Sv.Kl.Ohridski str.
Pleven, 5800
Bulgaria
e-mail: rdavidova@abv.bg

Summary

The survey could be assumed as representable for Medical University of Pleven because 89.7% of all second-year students took part in it. Second year students (n140) were requested to evaluate the difficulties they face in learning anatomy. The majority felt their anatomy and biology preparation in high school was good - 35% and satisfactory 26.5%. More than half of the students are with "poor" and "satisfactory" self-assessment of their preparation but nevertheless they manage to enter the University. The significance of anatomy is completely realized 85.7% of the students think it is very important for their future practice. Lectures are considered enough for 54.9%, but practical exercises - for only 15%. Students want more practicles and a four-term anatomy course. The main difficulties in studying are: the large amount of topics for a short time - 53.57%; Latin terms 20.7% ; remembering the material (17.8%); selecting the base information from the details (11.4%); difficulties in reading (1.4%) and 5.7% declare that have no difficulties at all. Difficulties in representation the material are: systemizing (36.7%); recounting (23.7%); schematizing (15%); without difficulties (17.1%). Implementation of clinical aspects is sought of 84.8%; 8.5% think this will trouble them and 7.1% definitely do not want any clinical aspects during learning process.

Key words: difficulties, learning, anatomy

Introduction

According to the faculty members' opinion there are some problems in teaching anatomy and the quality of acquired anatomy knowledge [1, 2]. Curriculum reform, introduced fifteen years before, affected anatomy education at the Medical University of Pleven by shortening of the course hours in three semesters. Many faculty members worried that the new curriculum may lead to deficiency in anatomical knowledge. The preliminary ability to learn is lower and new students feel difficulties in accumulating the expertise needed for their future practice [3].

The aim of our study was to define main difficulties students from the Medical University of Pleven face in the anatomy course.

Materials and Methods

Second-year students, (n=156 - 71 male and 85 female) who studied anatomy during 2007/08 and 2008/09 academic years, were asked to fill in an inquiry

concerning the anatomy course and especially difficulties in learning anatomy.

The inquiry contains 14 multiple choice and opened-answer questions. It was made by anatomy instructors in collaboration with specialists from the department of social medicine.

The answers were calculated and statistically processed by Statistica for Windows program.

Results

Out of the 156 inquiries handed, 140 (89.7%) were filled in and returned (59 male and 81 female).

The majority felt that their anatomy and biology preparation at high school was good - 49 (35%) and satisfactory - 37 (26.5%). Only 18 (12.8%) were described themselves as excellent prepared and 25.7% (36 students) as poor.

The significance of anatomy for the future practice is more than well realized - 85.7% of the questioned students (n120; p<0.005) think that it is "very important".

Time for studying the discipline is not enough for 85 of the inquired (60.7%; p<0.005). More of them prefer to study anatomy at least four semesters.

Table 1. Assessment of the lectures

Questions	Assessment N/%	Assessment N/%	Assessment N/%	Assessment N/%
Are the lectures enough?	Completely 17/12.1%	Rather yes 63/45%	Rather not 39/27.9%	No 21/15%
Satisfaction	Completely 30/21.4%	Rather yes 87/62.2%	Rather not 15/10.7%	No 8/5.7%
Attendance	Regular 91/65%	Sometimes 30/21.4%		Never 19/13.6%
Preliminary preparation	Regular 17/12.1%	Sometimes 85/60.7%		Never 38/27.2%
Assessment of lecturers	Excellent 95/67.8%	Good 55/39.2%		Bad 0
Helpful for the exam	Very much 51/36.5%	Somewhere 85/60.7%		No 4/2.8%

Lectures (Table 1) are considered enough for 67.1% (80 students). Those who attend lectures regularly are 65%, sometimes - 21.4%. Nevertheless, only 12.1% had been previously prepared. The

majority like the lecturers (63.6% excellent assessments and 39.2% good). The lectures are considered as satisfactory (83.6%) and helpful for preparation for the exam by 96.7%.

Table 2. Assessment of the practical exercises

Questions	Assessment N/%	Assessment N/%	Assessment N/%	Assessment N/%
Are the practicles enough?	Completely 19/13.6%	Rather yes 62/44.2%	Rather not 39/27.9%	No 20/14.3%
Efficacy	Completely 92/65.7%	Rather yes 46/32.8%	Rather not 2/1.4%	No 1/0.7%
Preliminary preparation	Regular 50/35.8%	Sometimes 83/59.2%		Never 7/5%
Assessment of instructors	Excellent 86/61.4%	Good 48/34.3%		Bad 6/4.3%
Helpful for the exam	Very much 93/66.4%	Somewhere 43/30.7%		No 4/2.9%

Practical exercises are enough for only 13.6% of inquired (n19) and "rather not" and "not" for 42.2% (n59). Only 5% (n7) confess that they did not prepare for laboratory sessions, the rest of the students - 25.8% (n50) are regular prepared and 59.2% (n83) - sometimes. The practicles are considered "completely efficient" by 65.7% (92) of the students and helpful for exam preparation from 66.4%.

Difficulties in studying as we expected are various. The large amount of topics for short time of studying is the most difficult for 53.57% (n75), following Latin terms - 20.7% (n29). Other difficulties students encounter are remembering the material (n25 - 17.8%), selecting the basic information from details (n16 - 11.4%). Only 2 students (1.4%) mention about difficulties with reading and 8 (5.7%) declare that

have no difficulties at all.

Difficulties in presenting the material are also various: systemizing (n51 - 36.7%); recounting (n33 - 23.7%); schematizing (n21 - 15%). Twenty four students (17.1%) do not encounter difficulties in presentation of the material.

Implementation of clinical aspects is sought of 118 of the inquired - 84.8%; 12 students (8.5%) think this will trouble them and 10 (7.1%) definitely do not want any clinical aspects during learning anatomy objects.

Discussion

89.7% of all the second-year students took part in the survey, so it could be assumed as representable for Medical University of Pleven.

The anatomy instructors in our department have noticed a tendency of decreasing the ability of learning anatomy over the past 10 years. One possible explanation is that the high school training has become poor for some reasons. How the students assess their high school preparation in anatomy and biology: excellent - 12.8%, good - 35%, satisfactory - 26.5% and poor - 25.7%. We believe this self-assessment to be honest and correct, but alarming. More than half of the students are with "poor" and "satisfactory" self-assessment as regards their preparation but, nevertheless, all they manage to enter the University. The problem about the proper way of the entrance examination has immersed.

The crucial significance of anatomy knowledge for future physician practice is considered by 85.7% of the students. The understanding that anatomy is an irreversible basis for medical practice increases the students' motivation and might be harness in activating studying.

Since 1993 the curriculum change has reduced the anatomy program to three semesters and 225 academic hours. The students' opinion is that the time for studying the discipline is not enough (85 inquired - 60.7%). More of them prefer to study anatomy four semesters, which will give more time for systemizing and deep understanding.

More than half of the students agree that the time for anatomy lectures is enough (54.9% - 77 students). The lectures' quality might be considered as high regarding three indexes: 83.6% of the inquired are satisfied with the lectures and 97.2% think that they are helpful for the exam preparation. This data could be confirmed by the regular attendance of 65% of the students and 76.8% of all, who like the lecturers. Better success could be anticipated if more students were previously prepared for lectures, not only 12.1%. Another recommendation is to invite more often guest-lecturers.

The situation with the practical exercises is different - 52.2% think the practicles are not enough. Realizing the need of the anatomy knowledge, students make efforts in studying - 25.8% are regularly prepared and 59.2% - sometimes. Of course more would ever have desired. Laboratory sessions are

considered as "completely efficient" by 65.7% (92) of the students and helpful for exam preparation - by 66.4%. Nevertheless, students recommend more academic hours for practicles and especially for dissections.

Difficulties students experience in the process of learning, are various: acquiring a large amount of topics for a short time, Latin terms, selecting the basic information from details. Unlike some researches abroad, only 2 students (1.4%) mention about difficulties with reading. Only 24 students (17.1%) declare they have no difficulties at all. Some actions must be undertaken to increase the academic hours for anatomy to help students acquire such a difficult and important for the future learning and practice discipline.

Systemizing the huge amount of objects learned in anatomy is the most difficult for 36.7% of the students. They can't distinguish the important data from the details and can't associate the new objects with the already acquired. The recounting is the second main problem - 23.7%. These students remain with the impression that they now and understand the objects, but get perplexed when they try to recount. Schematizing is an important indicator that students deep understand the material - 15% bother that they have difficulties in doing this. Do not have difficulties presenting the material 17.1%.

Since 2001 new interactive ways of studying have been introduced in the Anatomy department. Problem-Based Learning (with 3 or 4 groups) and Active small Group Learning (with 4 to 5 groups) require implementation of clinical aspects. Including clinical problems in teaching is sought of 118 of inquired - 84.8%; 12 students (8.5%) think this will trouble them and 10 (7.1%) definitely refuse including clinical aspects during studying anatomy.

Conclusions

Two main conclusions can be marked according the results of the enquiry.

There is a wide discrepancy between the learning skills acquired at school and university studying. At school, students study objects to cover the demands of the teacher, and to pass tests and exams. At the medical university the aim of studying anatomy is not only to pass the exams but to be prepared in the clinic to meet the patients' needs. And here comes the difficulty - students have not enough knowledge and learning skills from the high school. They are not able to cover the large amount of the learning objects in a relatively short time. May be the main difficulty here is the impossibility to differentiate the basic information from that of secondary importance.

The second discrepancy is a result of the change of generations. The new generation of young people is vigorous to obtain the information right now and only if they need it at the same moment. In contrast - 10 years ago students studied a great amount of information to use it somewhere in the future. That is

why the effective learning nowadays is more efficient when clinical aspects are involved [4, 5, 6, 7]. Moreover, the clinical problems help the students to integrate and understand the subject well.

References

1. Leung KK, Lue BH, Lu KS. Students' evaluation on a two-stage anatomy curriculum. *Med Teach.* 2006;28(2):59-63.
2. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: a cross-sectional study. *Med Educ.* 2005;39:594-599.
3. Percac S, McArdle PJ. Anatomy teaching: students' perception. *Surg Radiol Anat.* 2005; 19(5):315-317.
4. Nayak S, Romnarayan K, Somayaji N. Teaching anatomy in a problem-based learning (PBL) curriculum. *Neuroanatomy.* 2000;5:2-3.
5. Kramer B, Soley JT. Medical students' perception on problem topics in anatomy. *East Afr Med J.* 2002;79:408-414.
6. McCuskey RS, Carmichael SW, Darrell GK. The importance of anatomy in Health professions education and the shortage of qualified educators. *Acad Med.* 2005;80; 4:349-351.
7. Davidova R, Mushatova P, Yochkova St. Can active learning make anatomy more interesting. *Stara Zagora Union of Scientists; Proceedings of the scientific Conference with international participation "Stara Zagora 2005";* 2005 June 2-3; p. 126-131.