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Araştırma Makalesi/Research Article

## Pathology Education in Medical Faculties

Tıp Fakültelerinde Patoloji Eğitimi

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**Abstract:** The existence of different applications in terms of pathology, which has an important role in medical education, revealed the necessity of establishing the core education program and using it as a guide in medical faculties. In this study, we aimed to reveal the place of pathology in the education programs in different medical faculties. The education programs of 41 state universities using Turkish language and integrated education system were reached via internet. Pathology courses were evaluated in two groups as practical and theoretically. In 24 (58.5%) of the universities, pathology courses started in the second year. Only one program (2.5%) included Pathology courses in the 1st Grade. The pathology course was included in the 3rd class in all faculties, but 16 faculties (39%) were only in the 3rd grade. 3 (7.3%) of the faculties did not include practical practice. Considering all the programs (n = 41), the average course hour was found as 125.39  $\pm$ 28.11 and the average practical lesson time was 26.21  $\pm$ 15.89. Pathology education in medical faculties shows significant differences between faculties. Since a clear definition of course hours and contents will enable the establishment of a standardized pathology training curriculum, it is necessary to provide guidance on this subject.

Keywords: Medical education, pathology education, standardization.

Öz: Tıp eğitiminde önemli bir role sahip olan Patoloji dersinde farklı uygulamaların varlığı, çekirdek eğitim programının oluşturulmasına ve bu programın Tıp fakültelerinde rehber olarak kullanma gerekliliğini ortaya koymuştur. Bu çalışmada farklı Tıp fakültelerindeki eğitim programlarında Patoloji dersinin yerinin ortaya konması amaçlanmıştır. Türkçe eğitim veren ve entegre eğitim sistemini kullanan 41 devlet üniversitesinin eğitim programlarına internet üzerinden ulaşıldı. Patoloji dersleri veriliş şekline göre pratik ve teorik olarak 2 grupta değerlendirildi. Üniversitelerin 24'ünde (%58.5) Patoloji dersleri 2. sınıfta başlamaktaydı. Yalnızca bir program (%2.5) 1. Sınıfta Patoloji dersleri içermekteydi. Tüm fakültelerde Patoloji dersi 3. Sınıfta dahil edilmişti ancak 16 fakülte (%39) yalnızca 3. Sınıfta Patoloji dersi vermekteydi. Fakültelerin 3'ünde (%7.3) pratik uygulama dersi yer almamaktaydı. Tüm fakültelerde Patoloji teorik ders şeklinde programa dahil edilmişti. Tüm programlar göz önüne alındığında (n=41) ortalama Patoloji teorik ders saati 125.39 ± 28.11, ortalama pratik ders saati ise 26.21 ± 15.89 olarak bulunmuştur. Bizim üniversitemiz Türkçe Tıp programında ise 96 saat teorik ve 28 saat pratik Patoloji dersi yer almaktaydı. Tıp fakültelerindeki Patoloji eğitimi fakülteler arasında belirgin farklılıklar göstermektedir. Ders saatleri ve içeriklerinin net olarak belirlenmesi standardize edilmiş bir Patoloji eğitim müfredatı oluşturulmasına imkan sağlayacağından bu konuyla ilgili yönlendirici çalışmaların yapılması gerekmektedir.

Anahtar Kelimeler: Tıp eğitimi, patoloji eğitimi, standardizasyon.

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## Introduction

Medical education is a type of education which has theoretical and practical aspects, that requires a multidisciplinary approach. Numerous studies have been carried out for the standardization and optimization of this training. Among these studies, the most prominent intervention is the National Core Education Program (CEP), which is

prepared by many educators from different medical faculties (Gülpınar MA., 2014).

The National CEP was first established in February 2002 in Ankara by the staff of the medical education boards of medical schools (MS) in Ankara, Istanbul and Izmir, and was approved

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by the Health Sciences Education Council of Medicine. After that, CEP was put into practice in the academic year of 2004 (Bulut A., 2003). In the future, developments in health care and technology have revealed the need to update the CEP and in 2013 the first process of revision was initiated. This time many faculty members from different MS departments were included in the process and the revision was completed and was approved by the "Yüksek Öğretim Kurulu" (YÖK) in 2014 and it was decided to be implemented in the faculties of medicine as of the 2015-2016 academic year (Gülpınar MA., 2014).

The CEP has been used as a guide in the curriculum of many MSs and is still used. However, the CAP has some limitations. These limitations affects especially in basic sciences. There is no exemplary practice in the basic medical sciences to support the approach to the symptoms and findings in the CEP framework.

Pathology is a medical discipline that examines mechanisms of diseases, their causes, the way tissues affect organs and the morphological changes they form in tissues. Pathology includes many different investigations of macroscopic and microscopic examination of organ and tissue samples from patients. Although it is a part of Surgical Medical Sciences, it plays a role as a bridge between basic and clinical medical sciences because of its close interest in physiopathological mechanisms and its role in investigating the mechanisms of formation of diseases (Iversen O., 1997, Söylemezoğlu F., 2017).

In terms of pathology, which has an important role in medical education, the way in which lectures are given (theoretical / practical) and different practices in the course hours devoted to the subjects revealed the necessity of creating a separate core education program for each major branch and as a guide in the medical faculties.

The main aim of this study is to determine the differences that can be observed in terms of pathology course in MS curriculum and to determine what kind of practices in pathology course in different MS education programs.

#### Material and Methods

In Turkey, special and different scholarship programs to have 183 MS program through Turkish providing education, using the integrated education system, courses can be reached via the Internet, 2017-2018 with student Pathology course in the academic year was chosen as samples of MS programs. Implementation of a different education system (Problem-based learning, etc.), different language education (programs that teach English), not having received students (newly opened programs) and failure to access the course program were determined as exclusion criteria.

After the exclusion criteria, a total of 41 public universities were included in the study as a homogeneous group. Course schedules of these faculties were examined and class hours were noted according to classes.

According to the type of courses given, theoretical/practical groups were grouped and the corresponding course hours were calculated. Classes and classes for which type (theoretical/practical) is distributed in the form of hours are recorded.

The average and standard deviations of the theoretical and practical course hours of the faculties and the practical / theoretical course hours were calculated separately and compared with the values in our faculty.

#### Results

When the program of 41 faculties is examined, the pathology courses in all the faculties programs take the form of theoretical courses. Most of the faculties (93.7%) were given the practical application of pathology. Only 3 faculties (7.3%) (Ahi Evran University MS, Sakarya University MS, Van Yüzüncü Yıl University MS) were not included in the curriculum of the practical application of pathology.

The pathology courses were in the 3rd grade program of all faculties. In 24 of the faculties (58.5%), the pathology courses started in the second year. Only one program (2.5%) includes Pathology courses in the 1st Grade (Istanbul University Cerrahpaşa MS). A total of 16 faculties (39%) had only in 3rd grade pathology course (Figure 1).

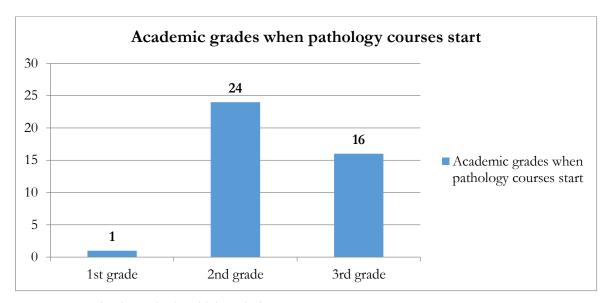


Figure 1: Academic grades in which pathology courses start

The mean theoretical course hours of all programs are  $125.39 \pm 28.11$  (minimum 43, maximum 190), the average practical hours are  $26.21 \pm 15.89$  (minimum 0, maximum 66). When the distribution of faculties within all pathology courses was examined, the ratio of practical / theoretical course hours ranged from 0-0.55 (median: 0.20). When the non-practical courses were removed, this rate was found to be 0.03-0.55. The pathology courses in the Turkish Medical Educational programme of our university are in the 3rd grade only 96 hours theoretical / 28 hours practice. The ratio of practical / theoretical course hours was found to be 0.29.

### Discussion

In recent years, intensive studies have been carried out in order to formulate standardized programs with the integration of curricula and subjects of medical education (Gülpınar MA., 2014; Bulut A., 2003). Each MS has different applications. These differences differ not only in terms of class hours, but also in terms of classes. In general, pathology courses in the medical faculties are concentrated in the third year (Demirhan B., 1999). In some faculties, in the second year and in a faculty, giving a pathology course in the first year reveals the difference between the faculties. More than half of the programmes (58.5%) could start pathology courses in the second year due to reducing the load in the 3rd grade. Pathology courses in terms of theoretical distribution General pathology and

organ / system specific pathology courses are recommended as two separate groups (Iversen O., 1997). Training in this way national internet-enabled devices do not occur in the distribution of time-course issues related to the review may be the main cause of different topics-hours distribution in Turkey (Gülpınar MA., 2014). Inadequate number of teaching in some faculties can result in low lecture hours and a more limited explanation of subjects.

When we look at the values of our own university, we have a total of 96 hours of theoretical course load. The most important reason for this was interpreted as the inadequacy of the number of faculty members due to the existence of additional course load in the English Medical Program and non-MS programmes (Faculty of Health Sciences, etc.).

In our country, only 3 programs do not include pathology practical lessons. However, in different studies, it is seen that some of the courses are presented as case discussions or panel style practical sessions through different audiovisual materials (Demirhan B., 1999; Kandiloğlu G., 1999).

Practical courses may vary according to faculty facilities. Microscopic case studies, small group microscope studies, slide presentations and microscopic photography images, etc. examples of this type of education (Iversen O., 1997;

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Demirhan B., 1999; Kandiloğlu G., 1999). The most important limiting factors of practical courses are the lack of physical facilities to meet the increasing number of students (lack of number of microscopes for per student or the shortcomings of the technological infrastructure (slide scanner devices) as well as the lack of physical space, etc.) and the inadequacy of the number of faculty members. In our faculty each student is given practical training by using personal/departmental slide archives to drop a microscope.

The integrative and systematic integration of pathology education is important to provide a common basis for all medical students. A clearer definition of the course and topic distributions and course hours and the more objective definition of the distribution of course contents by course time is one of the most important steps for standardizing the training. To provide a clear standardization and optimization both in terms of the capacity of the faculty members and the subject-course hours, and the studies that will be carried out for the pathology at least to clearly delineate the boundaries of the course hours for the pathology and pathology of the organ systems will be guiding the quality of pathology education in our country.

\* This study was presented as an oral paper at the 4th International Congress on Contemporary Educational Research, held on 4-7 October 2018 in Muğla / Bodrum.

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