

# The Viewpoints of Law and Medical Students on Autopsy: A Study in Turkey

TIP VE HUKUK FAKÜLTESİ ÖĞRENCİLERİNİN OTOPSİYE BAKIŞI:  
TÜRKİYE'DEN ÖRNEK BİR ÇALIŞMA

Nurdan KIRIMLIOĞLU,<sup>a</sup> Ömür ELÇİOĞLU,<sup>a</sup> Tarık GÜNDÜZ, MD,<sup>b</sup>  
Yasemin BALCI, MD,<sup>b</sup> Enver İHTİYAR, MD<sup>c</sup>

Departments of <sup>a</sup>Medical Ethics, <sup>b</sup>Forensic Medicine, <sup>c</sup>Surgery, Eskişehir Osmangazi University Faculty of Medicine, ESKİŞEHİR

## Abstract

In this study, the questionnaires designed to specify the knowledge, attitudes, acts, anxiety and avoidances of students about autopsy on human corpse are administered to 1<sup>st</sup> and 3<sup>rd</sup> year students in the Faculty of Medicine at Osmangazi University, 1<sup>st</sup> year students in the Faculty of Law at Anadolu University.

Participants responded to the questions in the questionnaire related to the autopsy. Arithmetic mean, standard deviation, frequency, percentages and t test were used to analyze the data.

According to our research, the student believe that autopsy is required and useful. The students groups were compared and, it was found out that 1<sup>st</sup> year students in the Faculty of Medicine believe in the efficiency of autopsy in providing the physicians with autopsy skills more than the 1<sup>st</sup> year students in the Faculty of Law. ( $t= 2.7524$   $p> 1.96$ ) One-third of the students stated that they were against autopsy because it was against human nature was disrespectful to human being since it destroyed the bodily integrity.

The students believe that autopsy is required and useful in order to determine the cause of death medico-legally. A small percentage of students stated that autopsy cannot help physician candidates acquire autopsy skills. Further, they expressed doubts about the contribution of autopsy to medical progress, medical research, and the advancement of medical knowledge. These responses suggest a need for greater education on such issues in our country.

**Key Words:** Autopsy, student

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## Özet

Bu çalışma Eskişehir Osmangazi Üniversitesi Tıp Fakültesi 1 ve 3. sınıf ile Anadolu Üniversitesi Hukuk Fakültesi 1. sınıf öğrencilerinin otopsi uygulaması konusunda bilgi, tutum, davranış, kaygı ve çekincelerini belirlemek amacıyla yapılmıştır.

Katılımcılar otopsi ile ilgili olarak hazırlanmış soru kağıtlarını cevaplamışlardır. Verilerin değerlendirilmesinde aritmetik ortalama, standart sapma, frekans, yüzde ve t testinden yararlanılmıştır.

Araştırmamızın sonuçlarına göre öğrenciler otopsinin faydalı ve gerekli olduğuna inanmaktadır. Öğrenci grupları karşılaştırıldığında: Tıp Fakültesi 1. sınıf öğrencileri ile Hukuk Fakültesi 1. sınıf öğrencileri arasında hekim adaylarına otopsi becerisi kazandırılması konusunda Tıp Fakültesi 1. sınıf öğrencileri lehine bir fark vardır ( $t= 2.7524$   $p> 1.9622$ ).

Öğrencilerin 1/3'ü insan doğasına aykırı, beden bütünlüğünü bozduğu, gerekçeleri ile otopsiye karşı çıkmaktadır.

Öğrenciler ölüm sebebini tıbbi ve yasal açıdan ortaya çıkardığı için otopsinin gerekli ve yararlı olduğuna; Öğrencilerin çok azı hekim adaylarının otopsi becerisi edinmelerinin gerekli olduğuna inanmaktadır. Öğrenciler otopsi uygulamasının tıbbi bilgilere katkı vereceği konusunda kaygılıdır. Araştırma verilerimize göre bu konuda daha geniş çapta araştırmalar gereksinim vardır.

**Anahtar Kelimeler:** Otopsi, öğrenci

**A**utopsy is the process through which all cavities of a corpse are cut open and all systems and organs are examined with

the available methods in order to find out the pathological events, identify the relation of these events with clinical events and anamnesis, and to clarify the reason or reasons of the changes encountered.<sup>1</sup>

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**Yazışma Adresi/Correspondence:** Ömür ELÇİOĞLU  
Eskişehir Osmangazi University Faculty of Medicine,  
Department of Medical Ethics, ESKİŞEHİR  
elcioglu@ogu.edu.tr

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Autopsies are the best way to determine the cause of death and can provide valuable information on why a person died. Information gathered during an autopsy can also help physicians better recognize disease in other patients. Because of this,

autopsies are regarded as an important educational resource for doctors to learn about the most serious diseases--those that cause death.<sup>2</sup>

Autopsy results are used to confirm clinical diagnoses, assess the effectiveness of medications and treatments, provide data for local and national registries of rates of prevalence and mortality, identify new diseases, and educate families, physicians, medical students, and hospital personnel.<sup>3</sup>

Autopsy is often described as a fundamental principle of medical care and quality control in medicine.<sup>4</sup> Autopsy is the ultimate tool for quality assessment and may be regarded as a boundary marker between life and death: it gives direction; gives the bystanders an opportunity to reflect on life and death, and the relativity of each; and provides scientific answers.<sup>5</sup> Furthermore, autopsies raise opportunities to discuss ethical and legal aspects of death and death certification, as well as increasing empathy for dying patients and their families.<sup>6</sup>

The human (body) is a common field of interest of medicine, law and philosophy. Human beings are included in the common field of interest of both medicine and law as soon as they are born. This survey was carried out in order to find out the knowledge, attitudes, actions, anxiety and avoidances toward autopsy of 1st and 3rd year students in the Faculty of Medicine at Osmangazi University and 1st year students in the Faculty of Law at Anadolu University.

### Material and Methods

The questionnaires designed to specify the knowledge, attitudes, actions, anxiety and avoidances of students about autopsy on a human corpse were administered to 1st and 3rd year students in the Faculty of Medicine at Osmangazi University at the end of the laboratory practices of Professional Skills. 214 papers out of 300 were evaluated in this research. In addition, the questionnaires were distributed to 150 1st year students in the Faculty of Law at Anadolu University and 127 papers were evaluated. The rate of response to the research was found to be 71.3 percent in the Faculty of Medicine at Osmangazi University and 84.6

percent in the Faculty of Law at Anadolu University.

Arithmetic mean, standard deviation, frequency and percentages were used to analyze the data and describe the respondents in terms of the variables, taking account of the measurement level of variables. Furthermore, "t test concerning the difference between the proportions" was used to compare the rates of the two groups.

### Results

156 respondents among the 1st year students in the Faculty of Medicine, 58 respondents among the 3rd year students in the Faculty of Medicine and 127 respondents among the 1st year students in the Faculty of Law participated in our research.

The average age of the 1st year students in the Faculty of Medicine was  $19.01 \pm 1.20$ , that of the 3rd year students was  $21.03 \pm 0.93$  and the 1st year students in the Faculty of Law was  $18.93 \pm 0.96$ .

Among the 1st year students in the Faculty of Medicine 83 (53.2%) were female and the rest (46.8%) were male; among the 3rd year students 33 (56.9%) were female and 25 (43.1%) were male; and among the 1st year students in the Faculty of Law 83 (65.4%) were female and the rest were male (34.6%).

When the students were asked to indicate the purposes and uses of autopsy, the following results were found (Table 1):

- 103 respondents (66%) among the 1st year students in the Faculty of Medicine, 37 respondents (63.8%) among the 3rd year students and 84 respondents (66.1%) among the 1st year students in the Faculty of Law mentioned the determination of the cause of death;
- 79 respondents (50.6%) among the 1st year students in the Faculty of Medicine, 25 respondents (43.1%) among the 3rd year students and 53 respondents (41.7%) among the 1st year students in the Faculty of Law mentioned the evaluation of the treatment outcomes (determining whether the deceased patient was provided with the proper and sufficient medical care and treatment);

**Table 1.** The distribution of the viewpoints of students groups on the causes and functions of autopsy.

| Purposes and uses of autopsy                            | 1 <sup>st</sup> year students<br>in the Faculty of Medicine |      | 3 <sup>rd</sup> year students<br>in the Faculty of Medicine |      | 1 <sup>st</sup> year students<br>in the Faculty of Law |      |
|---|---|------|---|------|--|------|
|   | n   | %    | n   | %    | n  | %    |
| Determining the cause of death                          | 103   | 66   | 37  | 63.8 | 84   | 66.1 |
| Evaluating the treatment outcomes                       | 79  | 50.6 | 25  | 43.1 | 53   | 41.7 |
| Having the physician candidates acquire autopsy skills  | 67  | 42.9 | 12  | 20.7 | 24   | 18.9 |
| Medical researches (effectiveness of medicaments, etc.) | 16  | 10.3 | 10  | 17.2 | 20   | 15.7 |
| Suspicious cases requiring legal autopsy                | 77  | 49.4 | 36  | 62.1 | 69   | 54.3 |

- 67 respondents (42.9%) among the 1st year students in the Faculty of Medicine, 12 respondents (20.7%) among the 3rd year students and 24 respondents (18.9%) among the 1st year students in the Faculty of Law mentioned the need for having the physician candidates acquire autopsy skills;

- 16 respondents (10.3%) among the 1st year students in the Faculty of Medicine, 10 respondents (17.2%) among the 3rd year students and 20 respondents (15.7%) among the 1st year students in the Faculty of Law mentioned the need for medical research (effectiveness of medicaments, etc.) and ensuring medical progress thanks to such research;

- 77 respondents (49.4%) among the 1st year students in the Faculty of Medicine, 36 respondents (62.1%) among the 3rd year students and 69 respondents (54.3%) among the 1st year students in the Faculty of Law mentioned suspicious cases which require legal autopsy.

The student groups were compared on the basis of their aforementioned responses and it was found that 1st year students in the Faculty of Medicine believe in the efficiency of autopsy in providing physicians with autopsy skills more than the 1st year students in the Faculty of Law. ( $t=2.7524$   $p>1.96$ )

Some students were against or undecided about autopsy on the following grounds (Table 2):

- 38 respondents (24.3%) among the 1st year students in the Faculty of Medicine, 21 respondents (36.2%) among the 3rd year students and 47 respondents (37%) among the 1st year students in the Faculty of Law mentioned that autopsy is against human nature and the destruction of bodily integrity is disrespectful to human beings;

- 6 respondents (3.8%) among the 1st year students in the Faculty of Medicine, 4 respondents (6.9%) among the 3rd year students and 3 respondents (2.4%) among the 1st year students in the Faculty of Law stated that they were doubtful about the contribution of autopsy to medical progress;

- 23 respondents (14.7%) among the 1st year students in the Faculty of Medicine, 5 respondents (8.6%) among the 3rd year students and 14 respondents (11%) among the 1st year students in the Faculty of Law believed that their families would not consent to perform an autopsy on them;

- 3 respondents (1.9%) among the 1st year students in the Faculty of Medicine, 2 respondents (3.4%) among the 3rd year students and 1 respondent (0.8%) among the 1st year students in the Faculty of Law believed that the autopsy would delay the planned funeral procedures;

- 1 respondent (0.6%) among the 1st year students in the Faculty of Medicine, 1 respondent (1.7%) among the 3rd year students and 2 respondents (1.6%) among the 1st year students in the Faculty of Law thought that autopsy was against religious beliefs;

- 2 respondents (1.3%) among the 1st year students in the Faculty of Medicine, 1 respondent (1.7%) among the 3rd year students and 2 respondents (1.6%) among the 1st year students in the Faculty of Law stated that they did not want their disease to be diagnosed after their death.

When the student groups were compared on the basis of the aforementioned responses, a difference in favor of the 1st year students in the Faculty of Law was found between the 1st year students in the Faculty of Medicine and the 1st year students in the Faculty of Law on the view that autopsy is

**Table 2.** The distribution of the viewpoints of student groups on their objection to and indecisiveness about autopsy.

| Reasons of their objection to and indecisiveness about autopsy   | 1 <sup>st</sup> year students in the Faculty of Medicine |      | 3 <sup>rd</sup> year students in the Faculty of Medicine |      | 1 <sup>st</sup> year students in the Faculty of Law |     |
|--|--|------|--|------|---|-----|
|  | n  | %    | n  | %    | n   | %   |
| Autopsy is against human nature and the destruction of bodily integrity is disrespectful to human beings | 38   | 24.3 | 21   | 36.2 | 47  | 37  |
| I am doubtful about the contribution of autopsy to medical progress                                      | 6  | 3.8  | 4  | 6.9  | 3   | 2.4 |
| My relatives will not consent to an autopsy on my body   | 23   | 14.7 | 5  | 8.6  | 14  | 11  |
| Autopsy delays the planned funeral procedures  | 3  | 1.9  | 2  | 3.4  | 1   | 0.8 |
| Autopsy is against religious beliefs   | 1  | 0.6  | 1  | 1.7  | 2   | 1.6 |
| I do not want my disease to be diagnosed after my death  | 2  | 1.3  | 1  | 1.7  | 2   | 1.6 |

against human nature and the destruction of bodily integrity is disrespectful to human beings ( $t=2.3131$   $p>1.96$ ), and a difference in favor of the 1st year students in the Faculty of Medicine on the doubts about the contribution of autopsy to medical progress. ( $t=2.0706$   $p>1.96$ )

11 respondents (7.1%) among the 1st year students in the Faculty of Medicine, 3 respondents (5.2%) among the 3rd year students and 9 respondents (7.1%) among the 1st year students in the Faculty of Law stated that they would not consent to autopsy on any condition when they lost one of their family members.

63 respondents (40.4%) among the 1st year students in the Faculty of Medicine, 25 respondents (43.1%) among the 3rd year students and 38 respondents (0.8%) among the 1st year students in the Faculty of Law indicated that they would consent to autopsy on themselves. 117 respondents (75%) among the 1st year students in the Faculty of Medicine, 45 respondents (77.6%) among the 3rd year students and 95 respondents (74.8%) among the 1st year students in the Faculty of Law stated that they would allow autopsy under the conditions stipulated by the law when they lost any member of their family.

### Discussion

Autopsy is recognized as a valuable educational experience in most of the literature<sup>7-10</sup> and plays a major role in helping medical students get over their uncertainty about autopsy procedure.<sup>11</sup>

In a study, it was reported that most students described autopsies as educationally useful, although 20% found them distasteful.<sup>6</sup>

In research carried out to compare the attitudes to autopsy of the 1st, 4th and 6th year students in the Faculty of Medicine, survey papers were distributed to 283 students and 226 of them (80%) replied. It was found that all students agree with the importance of autopsy.<sup>7</sup>

In our research 67 respondents (42.9%) among the 1st year students in the Faculty of Medicine, 12 respondents (20.7%) among the 3rd year students and 24 respondents (18.9%) among the 1st year students in the Faculty of Law stated that autopsy was required and beneficial for the physician candidates to acquire autopsy skills. Our findings support the data of other research.

In a questionnaire administered in China to evaluate the attitude of the public to autopsy, it was found out that more than half of the respondents found autopsy useful.<sup>12</sup> In another report the researchers interviewed with the families of 102 people who died in a university hospital and it was seen that 88% of the interviewees found autopsy useful.<sup>13</sup>

To analyze the possible factors that influence autopsy rate, Chariot et al. administered a questionnaire to the physicians and head nurses from hospitalization departments, pathologists, and mortuary staff. Nearly all respondents stated that autopsies were useful.<sup>4</sup>

The majority of clinicians and pathologists view autopsy results as useful in cases where the cause of death is unknown.<sup>3</sup> In a study by Lund and Tierney, 75% of junior doctors still believed that the autopsy was a useful tool, most of them stating that it was there to help identify an unknown cause of death in a patient.<sup>14</sup>

The research conducted by Tolgay et al. to discover attitudes and behaviors toward autopsy revealed that 90.8% of the respondents selected randomly in the 1st group and 80.6% of the people in the 2nd group who were waiting during an autopsy on their family members stated that autopsy was required in case of unattended deaths.<sup>12</sup>

In one of the few empirical studies of perceived benefits and barriers to autopsy among family members, a questionnaire was mailed to the next of kin of 312 patients who died in a large medical center; approximately 40% (n= 138) of the deceased patients had undergone autopsy. Of this group of 138, 41% (n=56) of the next of kin completed and returned a questionnaire. Over 90% of the survey respondents considered autopsy to be generally beneficial, although only two-thirds perceived that the autopsy performed on their relative was helpful. The major benefits of autopsy expressed by the respondents included: (a) advancement of medical knowledge; (b) comfort in knowing the cause of death; (c) reassurance that appropriate care was given while the relative was alive; and (d) confirmation of the cause of death.<sup>3</sup>

Our findings are in conformity with this research. When the students were asked to indicate the purposes and uses of autopsy, the following results were found (Table 1):

- 103 respondents (66%) among the 1st year students in the Faculty of Medicine, 37 respondents (63.8%) among the 3rd year students and 84 respondents (66.1%) among the 1st year students in the Faculty of Law mentioned the determination of the cause of death;

- 79 respondents (50.6%) among the 1st year students in the Faculty of Medicine, 25 respondents (43.1%) among the 3rd year students and 53 respondents (41.7%) among the 1st year students in the Faculty of Law mentioned the evaluation of the treatment outcomes (determining whether the deceased patient was provided with the proper and sufficient medical care and treatment);

- 67 respondents (42.9%) among the 1st year students in the Faculty of Medicine, 12 respondents (20.7%) among the 3rd year students and 24 respondents (18.9%) among the 1st year students

in the Faculty of Law mentioned the need for having the physician candidates acquire autopsy skills;

- 16 respondents (10.3%) among the 1st year students in the Faculty of Medicine, 10 respondents (17.2%) among the 3rd year students and 20 respondents (15.7%) among the 1st year students in the Faculty of Law mentioned the need for medical research (effectiveness of medicaments, etc.) and ensuring medical progress thanks to such research;

77 respondents (49.4%) among the 1st year students in the Faculty of Medicine, 36 respondents (62.1%) among the 3rd year students and 69 respondents (54.3%) among the 1st year students in the Faculty of Law mentioned suspicious cases which require legal autopsy.

The following were mentioned by the respondents as barriers to autopsy in research carried out to determine the factors regarded as barriers to and benefits of autopsy by the family members: (a) concern about disfigurement of the body; (b) stress of providing consent for the autopsy; (c) lack of information about the benefits of autopsy; (d) the objections of surviving family members of the deceased; (e) cost; (f) religious concerns; (g) delay of funeral arrangements; and (h) not discussing the procedure with a physician.<sup>3</sup>

In the study of Chariot et al., for the respondents, the main reasons that could lead relatives to refuse an autopsy were the fear of a disrespectful handling of the corpse, religious objections, moral suffering in the context of death, refusal expressed by the patient before death, lack of information concerning the performance of the autopsy, lack of information concerning the results of the autopsy, unusefulness of the autopsy, delay in funerals.<sup>4</sup>

The responses of the students who participated in our research on why they are against or doubtful about autopsy are similar to the responses in other published research: autopsy is against human nature, and the destruction of bodily integrity is disrespectful to human beings; they had doubts about the contribution of autopsy to medical progress; their relatives would refuse autopsy on them; autopsy would delay the planned funeral procedures; autopsy was against their religious beliefs; and

they did not want their diseases to be diagnosed after their death.

Research reveals that one of the main reasons for rejecting autopsy is the concern that the body will be cut up.<sup>12</sup>

In Sanner's study, 70% of participants felt discomfort at the thought of autopsy. Irrespective of the attitudes, the most common source of discomfort was the thought of the dead body being cut up, followed by fear of being disrespectful to the dead person.<sup>15,16</sup>

In our study 38 respondents (24.3%) among the 1st year students in the Faculty of Medicine, 21 respondents (36.2%) among the 3rd year students and 47 respondents (37%) among the 1st year students in the Faculty of Law mentioned that the autopsy was against human nature and was disrespectful to human beings since it destroyed bodily integrity. Hence, it is clear that the statements of our student groups support the findings of other research.

In the study of Inanici et al., 35 (9.05%) of the students considered that autopsy was not necessary for medical education, 93 (24.0%) of them believed that autopsy was not necessary to determine the results of medical treatment and its effects and 17 (4.4%) students believed that autopsy was not worthwhile.<sup>8</sup>

The fact that 6 respondents (3.8%) among the 1st year students in the Faculty of Medicine, 4 respondents (6.9%) among the 3rd year students and 3 respondents (2.4%) among the 1st year students in the Faculty of Law stated in our study that they were doubtful about the contribution of autopsy to medical progress supports the findings of Inanici et al.

Although the research conducted by Tolgay et al. revealed that 90.8% of the respondents selected randomly in the 1st group and 80.6% of the people in the 2nd group who were waiting during an autopsy on their family members believed in the necessity of autopsy, 24.6% of the respondents in the 1st group and 52.8% of the respondents in the 2nd group stated that they would not consent to autopsy when it was required for any of their relatives. These statements provide evidence that people may disregard their logic and adopt emotional approaches to autopsy when their relatives are concerned.<sup>12</sup>

The fact that 11 respondents (7.1%) among the 1st year students in the Faculty of Medicine, 3 respondents (5.2%) among the 3rd year students and 9 respondents (7.1%) among the 1st year students in the Faculty of Law in our study stated that they would not consent to autopsy on any condition when they lost one of their family members is parallel to the finding of the aforementioned study.

In Sanner's study, a large majority of the respondents indicated they would accept an autopsy for themselves. Almost as many reported they would also consent to it for a close relative.<sup>15,16</sup>

In Tolgay's study, 75.4% of the respondents selected randomly in the 1st group and 47.2% of the respondents in the 2nd group waiting during the autopsy of a family member stated that they would not reject an autopsy on any of their relatives.<sup>12</sup>

In a survey administered via telephone to 1,050 people in Norway, the respondents were asked whether they would consent to an autopsy on any of their deceased relatives. 86% of the responses were positive. A face-to-face survey in France showed that 21 out of 25 respondents were not against autopsy.<sup>12</sup>

In our study 63 respondents (40.4%) among the 1st year students in the Faculty of Medicine, 25 respondents (43.1%) among the 3rd year students and 38 respondents (0.8%) among the 1st year students in the Faculty of Law indicated that they would consent to autopsy on themselves. 117 respondents (75%) among the 1st year students in the Faculty of Medicine, 45 respondents (77.6%) among the 3rd year students and 95 respondents (74.8%) among the 1st year students in the Faculty of Law stated that they would consent to autopsy under the conditions stipulated by the law when they lost any member of their family. These findings support those of other surveys.

## Conclusion

The students believe that autopsy is required and useful in order to determine the cause of death medico-legally.

A small percentage of students stated that autopsy cannot help physician candidates acquire autopsy skills. Further, they expressed doubts about the contribution of autopsy to medical progress, medical research, and the advancement of medical knowledge. These responses suggest a need for greater education on such issues in our country.

One-third of the students stated that they were against autopsy because it is contrary to human nature, and is disrespectful to human beings since it destroys bodily integrity. The same students -in low percentages- believed that their families would not consent to an autopsy on their bodies for the same reasons.

A very small percentage of the students indicated that they would not consent to autopsy on any condition. While nearly half of the students stated that they would accept autopsy on their own bodies, three-fourths of them would consent to autopsy under the conditions stipulated by the law when they lost any member of their family.

Though students have doubts about the contribution of autopsy to medical progress, they stated that they would consent to forensic autopsy. This is evidence that people in our country are willing to assist the execution of justice although they are not informed sufficiently about autopsy.

Despite all technical and scientific developments, the difference between pre- and post-autopsy diagnosis approaches 60%.<sup>17</sup> Hence, the psychological difficulty of asking for permission from the family of a deceased person for autopsy should be overcome in order to prevent the facts from being buried in the grave with the corpse. Rejecting autopsy not only hinders the disclosure of medical facts but also obstructs the objective execution of justice.

Physicians and hospitals have to adopt encouraging approaches in order to fulfill their legal responsibilities and increase the number of annual autopsies -a quality criterion for the hospitals- to the level of hospitals in developed countries.

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