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# Investigating the defensive medical practices of the physicians working in the city center of Malatya

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**Abstract**
With this study, we aimed to determine the defensive medical practices of the physicians of different academic title and seniority, who are performing their duty in MalatyaAfter the approval from the ethical committee had been received, our study was conducted by performing surveys and face-to-face interviews with the practitioners, specialists, family practitioners and academicians working in the State and University hospitals as well as Private Hospitals in the city of Malatya. 234 physicians were asked to answer 19 questions regarding the defensive medical practices within the survey. 87% of the research sampling was reached. 176 (75,2%) of these physicians are male, whereas 58 (24,8%) of them are female. The mean age of the women who participated in the research is 38,9. It turned out that the physicians working in the state hospitals as well as private hospitals had referred to defensive medical practices more than those working in the university hospitals (P=0.026), and that the professors and associate professors had avoided the patients with the risk of filing a suit in temrs of medical malpractice less than the specialists and medical practitioners (p=0,003). In conclusion, it was determined that as the degree of professional experience, academic title and seniority in the physicians increased, the rate of defensive medical practices seemed to decrease.

**Keywords:** Defensive medicine, malpractice, physicians

## Introduction

It is possible that while a disease may recover during the treatment applied, it is also likely to get worse, as well. Therefore, medical treatments always bear a risk. In recent years, the rapid developments in the medical diagnoses and treatments as well as medical technologies have reduced risk factors down to a lesser degree. Medical profession is seemingly getting into a more and more restless and concerned state not only due to the pressures imposed by the society, press and legal arrangements but also due to the increasing number of allegations on account of the medical mistakes made by physicians [1].

Malpractice is defined as inaccurate and negligent practices performed by one of the members of a profession, which emerge during the practice of that profession. Medical malpractice, on the other hand, is defined as ‘ the failure of the physician to perform the proper service and care under present conditions, the failure of a physician experienced in his profession to exhibit the performance to be exhibited under the same conditions, digressing from the normal practice to meet the requirements, thus, declining its standards, as the result of which some harm is caused. Implementation flaws of medical science (malpractice) has become a multifaceted issue discussed along with its legal, ethical and medical aspects in Turkey in recent years and particularly in the developed countries for the past 30 years [2,3].

While the discussions over malpractice in the developed countries are being made in the direction of preventing any error in general, this sort of discussion in our country, where the legal arrangements are inadequate and the medical standards are not fully specified, is rather being conducted within the framework of the distinction between malpractice and complication [4].

Defensive medicine is defined as the application of further assistive methods of diagnosis by physicians in order not to confront with any possible allegation of malpractice.

Even if the involved physician may have established the diagnosis after having requested the medical examinations that would be adequate for the examination findings and diagnosis, s/he, with the concern about malpractice, may still be inclined to guard herself/himself anyway by requesting more than adequate number of examination and imaging methods.

The standards of medicine in several professional fields have not yet been clearly identified; for this reason, it is known that any practice that appears to be the defensive medicine to a physician may mean a medical treatment of

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quality to another. It becomes difficult to distinguish the factors related with the responsibility of the physician that will affect his clinical decision-making process from the other factors, such as meeting the expectations of the patient, maintaining trust and avoiding any conflict [5].

Considering the definitions made over defensive medicine, the fact that these practices show up in two different facets in practice attracts attention. The first one of these is, for the purpose of evading responsibility, the positive defensive medical practices which are performed in the manner of increasing the number of the procedures to be followed for the patient even though they have no medical advantage whatsoever, and also those that are also referred to as the behaviours of assurance, which the practitioner refers to for the purpose of demonstrating that s/he performs more tasks than her/his share in the diagnosis and treatment of the disease. The second, on the other hand, is the negative defensive medical practices which are performed in the manner of disregarding or ignoring the patient due to the high rate of risk that the disease or the medical intervention to be performed bears, which may cause undesired consequences, and these sort of practices can also be referred to as the behaviours of abstention [6-8].

Within the new Turkish Criminal Law (TCL), which was published in the official gazette in October 12, 2004 and was put into effect in June 1, 2005, the amount of penalties pertaining to the articles found in the former TCL that restricted the individual rights and freedoms was prominently increased, and the concepts, such as committing intentional homicidal crimes with a negligent behaviour (TCL, Article 83) and conscious negligence (TCL, Article 22), were added within, as well [9].

When the penalties to be imposed in the event that it is the physician's fault are reviewed, it is observed that the crime rates are rather high in the TCL, which was put into effect in 2005. Nonetheless; in medical science full of occupational risks due to its nature, the development of a tendency towards defensive medicine and creating an atmosphere in which physicians will avoid taking any risks are feared for [10].

In this survey, we aimed that the physicians in the branches of clinical and surgical sciences who are working in the city of Malatya in Turkey evaluate their defensive medical practices. The physicians in charge of the branch of fundamental sciences were excluded from the study. During the survey period, the physicians were visited and were allowed to fill out the survey. The practitioners, specialists, assistant professors, associate professors and professor doctors who were working in the university, state and private hospitals and who had a direct patient-physician relationship were interviewed.

**Material and Method**

Our study is a cross-sectional and descriptive type of study. In this study, the data were collected through the method of collecting information by performing a face-to-face survey. The survey questions were prepared by benefiting from a study that was previously conducted in our country [1]. After receiving the approval from the ethical committee, the surveys were performed by making face-to-face interviews with the practitioners, specialists, family practitioners and academicians (assistant professors, associate professors, professors) working in the private, state and university hospitals in the city of Malatya.

In the factor-questioning section of the survey, the genders of the participants as well as their age, marital status, the institution they worked for, the branch of medical science they worked for, their academic title, and which professional year they were in were all questioned. In the phenomenon-questioning section, on the other hand, the questions also used previously in the literature in our country so as to measure and evaluate the defensive medical practices were asked. The study was conducted on the physicians and medical practitioners from various branches who had been working in the private, state and university hospitals in the city center of Malatya.

The research population consisted of 905 individuals. The sampling size was calculated as 269. Through the use of the stratified sampling method, the population was stratified according to the institutions the physicians worked for, their academic title and their status of being a specialist or a practitioner. 87% of the sampling and 234 people were reached. The options of the questions, 'always' and 'mostly', which represented precision and continuation as well as the options, 'sometimes' and 'rarely', which did not represent any continuation, were examined in combination, as was in the literature.

**Statistical Analysis**

In the statistical analyses, the Chi-Square Test was used. The $P<0,05$ value was accepted as significant for the results of the analysis. In the analyses of the data, the SPSS statistical package program was used.

**Results**

234 physicians participated in the research. 176 (75,2%) of these physicians are male, whereas 58 (24,8%) of them are female. The mean age of the women who took part in the research is 38,9, whereas the mean age of the men involved is 42,1. The mean professional year of the physicians who participated in the research is 15,8 years (Table 1). 22 (9,4%) of the physicians who took part in the research are professor doctors, while 16 of them (6,8%) are associate professors, 9 of them (3,8%) are assistant professor

doctors, 130 (55,6%) are specialists, and 57 (24,4%) are medical practitioners. In our research, the male physicians, when compared with the female ones, stated that their medical performances had been affected by their medical malpractice lawsuits more significantly (p=0,007). It turned out that the physicians working in the state and private hospitals had kept away more from the patients highly likely to file a lawsuit so as to avoid any medical malpractice allegations against them when compared with those working in the university hospitals (p=0,026). In the same way, the physicians working in the state and private hospitals proved to have kept away more from the patients with complex medical problems so as to avoid any medical malpractice allegations against them in comparison to those working in the university hospitals (p<0,001).

It followed that the physicians working in the state hospitals had abstained from the treatments with high complication risk so as to avoid any medical malpractice allegations against them when compared with those working in the university hospitals (p<0,001). In our research, it was seen that the physicians working in the department of surgical sciences had referred to the method of hospitalizing patients with no indication at a lesser rate than those working in other medical sciences (p<0,001). It also turned out that the professor doctors and associate professors, when compared with the specialists and medical practitioners, had kept away less from the patients with a high risk of filing a lawsuit in terms of medical malpractice (p=0,003), and they also had refused the patients with a high medical complication risk less than the others (p<0,001) and had not requested further examination so as to avoid any medical malpractice allegations against them (p<0,001).

**Table 1**. Socio-Demographic Features

| Socio-Demographic Features | Count (n) | Percent % |
|---|---|---|
| **Gender** | | |
| Female | 58 | 24.8 |
| Male | 176 | 75.2 |
| **Age** | | |
| 25-34 | 29 | 12.4 |
| 35-44 | 140 | 59.8 |
| 45-54 | 54 | 23.1 |
| 55 ve üzeri | 11 | 4.7 |
| **Marital Status** | | |
| Married | 220 | 94.0 |
| Single | 13 | 5.6 |
| Other | 1 | 0.4 |
| **Occupied İnstitution** | | |
| Private Sector | 65 | 27.8 |
| State Hospital | 71 | 30.3 |
| Universty Hospital | 48 | 20.5 |
| Family Care Center | 50 | 21.4 |
| **Residency** | | |
| Internal Medicine | 136 | 59.1 |
| Surgical Medicine | 94 | 40.9 |
| **Degree** | | |
| Professor | 22 | 9.4 |
| Associate Professor | 16 | 6.8 |
| Assistant Professor | 9 | 3.8 |
| Specialist | 130 | 55.6 |
| General Practitioner | 57 | 24.4 |
| **Working Years** | | |
| 10 and below | 58 | 24.8 |
| 11-20 | 120 | 51.3 |
| 21-30 | 48 | 20.5 |
| 31 and above | 8 | 3.4 |

**Table 2.** Distribution of replies to the Questionnaire.

| | Every time | Almost every time | Sometime | Rarely | Never |
|---|---|---|---|---|---|
| **1)**Do you ever happen to request any further medical examination in order to guard yourself against any medical malpractice allegations? | 24<br>%10,3 | 53<br>%22,6 | 107<br>%28 | 28<br>%12 | 22<br>%9,4 |
| **2)**Do you ever happen to prescribe more medications to guard yourself against any medical malpractice allegations? | 13<br>%5,6 | 21<br>%9,0 | 73<br>%31,2 | 47<br>%20,1 | 80<br>%34,2 |
| **3)**Do you keep away from the patients who are highly likely to file a lawsuit in order to guard yourself against any medical malpractice allegations? | 23<br>%9,8 | 55<br>%23,5 | 81<br>%34,6 | 41<br>%17,5 | 34<br>%14,5 |
| **4)**Do you request more consultations to guard yourself against any medical malpractice allegations? | 30<br>%12,8 | 61<br>%26,1 | 84<br>%35,9 | 39<br>%16,7 | 20<br>%8,5 |
| **5)**Do you ever happen to hospitalize any patient without any indication in order to guard yourself against any medical malpractice allegations? | 12<br>%5,1 | 8<br>%3,4 | 67<br>%28,6 | 60<br>%25,6 | 87<br>%37,2 |
| **6)**Do you refuse any patients with complex medical problems in order to guard yourself against any medical malpractice allegations? | 29<br>%12,4 | 49<br>%20,9 | 70<br>%29,9 | 48<br>%20,5 | 38<br>%16,2 |
| **7)**Do you ever use the imaging examinations more frequently in order to guard yourself against any medical malpractice allegations? | 29<br>%12,4 | 55<br>%23,5 | 93<br>%39,7 | 26<br>%11,1 | 31<br>%13,2 |
| **8)**Do you explain the medical practices in more detail to guard yourself against any medical malpractice allegations? | 55<br>%23,5 | 111<br>%47,4 | 45<br>%19,2 | 13<br>%5,6 | 10<br>%4,3 |
| **9)**Do you avoid the treatments with high complication risk to guard yourself against any medical malpractice allegations? | 28<br>%12 | 61<br>%26,1 | 83<br>%35,5 | 33<br>%14,1 | 29<br>%12,4 |
| **10)**Do you ever keep the medical records in more detail to guard yourself against any medical malpractice allegations? | 61<br>%26,1 | 111<br>%47,4 | 45<br>%19,2 | 13<br>%5,6 | 4<br>%1,7 |
| **11)**Do you attach more importance to the informed consent forms to guard yourself against any medical malpractice allegations? | 65<br>%27,8 | 91<br>%38,9 | 60<br>%25,6 | 13<br>%5,6 | 5<br>%2,1 |
| **12)**Do you ever happen to transfer any patient at risk even though you have a treatment opportunity at hand in order to guard yourself against any medical malpractice allegations? | 23<br>%9,8 | 60<br>%25,6 | 81<br>%34,6 | 39<br>%16,7 | 31<br>%13,2 |
| **13)** Do you ever abstain from making any medical mistakes? | 48<br>%20,5 | 59<br>%25,2 | 90<br>%38,5 | 26<br>%11,1 | 11<br>%4,7 |
| **14)**What, do you think, is your risk of confronting any medical malpractice lawsuit at any moment according to the conditions you are working under? | 93<br>%39,7 | 58<br>%24,8 | 58<br>%24,8 | 24<br>%10,3 | 1<br>%0,4 |

It also followed that the professor doctors and associate professors, when compared with the specialists and medical practitioners, had attached more importance to the informed consent forms (p=0,002). The professor doctors proved to have refrained from performing medical malpractice less than the other groups of doctors (p=0,021).

It appeared that as the number of the professional years of the physicians increased, they refrained less from the patients at risk in terms of medical malpractice (p=0,001), that they requested fewer consultations (p<0,001) as well as fewer imaging examinations (p=0,011), that they refused the patients with high complication risk less than the other doctors (p=0,017), and that they transferred patients less when they had a treatment opportunity at hand (p=0,035).

80,2% of the physicians who participated in our research declared that they had received no in-service training on medical malpractice, whereas 19,8% of them declared that they had received an in-service training at least once. While 82% of the physicians who took part in our research declared that they had not been exposed to any medical malpractice lawsuit at all, 18% of them declared that they had been exposed to medical malpractice lawsuit at least once.

It appeared that those with a medical malpractice lawsuit, when compared with those who had none, had significantly requested further examinations (p=0,002) as well as more consultations (p=0,024), and that they had hospitalized more patients with no indication (p=0,003), had requested more imaging examinations (p=0,001) and had refrained more from making mistakes (p=0,002) so as to guard themselves against any medical malpractice allegations against them.

Most of the physicians stated the fact that they requested further medical examinations to guard themselves against any malpractice lawsuit, that they prescribed more medications to be guarded against medical malpractice allegations, that they kept away from the patients who were highly likely to file a lawsuit so as to protect themselves from any malpractice allegations, that they requested further consultations and used the imaging examinations more frequently, that they explained the medical practices more in depth to protect themselves, and that they kept the medical records more in detail, in addition to which they avoided the treatments with high complication risk, attached more importance to the informed consent forms and transferred the patients at risk although they had a treatment opportunity available. Separately, again, the majority of the physicians, pointed out the fact that they refrained from making any medical mistakes and they had the risk of confronting with any medical malpractice lawsuit at any moment under their working conditions.

**Conlusion**

The concept of malpractice is a multi-faceted and multi-dimensional one, and when dealt with in a broader sense, it is known as the condition in which the consequences, such as medical practice error, negligence, carelessness, ignorance, lack of skills and insufficiency in patient care, come to the surface. The incremental increase in medical knowledge with each passing day, the development of medical technology, and the increase in the number of the physicians utilizing this technology lead physicians to perform some of the practices they were unable to do in the past, and thus, as the result of such practices mostly involving heavy risks, the complaints and lawsuits over malpractice increase, as well [3].

Most of the physicians who participated in our study pointed out the fact that they requested further medical examinations to guard themselves against any malpractice lawsuit, that they prescribed more medications to be guarded against medical malpractice allegations, that they kept away from the patients who were highly likely to file a lawsuit so as to protect themselves from any malpractice allegations, that they requested further consultations and used the imaging examinations more frequently, that they explained the medical practices more in depth to protect themselves, and that they kept the medical records more in detail, in addition to which they avoided the treatments with high complication risk, attached more importance to the informed consent forms and transferred the patients at risk although they had a treatment opportunity available. Separately, again, the majority of the physicians, pointed out the fact that they refrained from making any medical mistakes and they had the risk of confronting with any medical malpractice lawsuit at any moment under their working conditions.

In our research, the male physicians, when compared with the female ones, stated that their medical performances had been affected by the medical malpractice lawsuits more significantly (p=0,007). It is thought that this reality contributes to the fact that male physicians choose more risky branches. It turned out that the physicians working in the state and private hospitals had significantly kept away more from the patients highly likely to file a lawsuit so as to avoid any medical malpractice allegations against them when compared with those working in the university hospitals (p=0,026). In the same way, the physicians working in the state and private hospitals proved to have kept away more from the patients with complex medical problems so as to avoid any medical malpractice allegations against them in comparison to those working in the university hospitals (p<0,001). It followed that the physicians working in the state hospitals had abstained from the treatments with high complication risk so as to avoid any medical malpractice allegations against them when compared with those working in the university hospitals (p<0,001), which is thought to be associated with

the fact that university hospitals are the final-step / top step places and that they have better facilities than the state and private hospitals. In our research, it was seen that the physicians working in the department of surgical sciences had referred to the method of hospitalizing patients with no indication at a lesser rate than those working in other medical sciences (p<0,001).

It was stated that in the USA, particularly the specialists of Gynaecology and Obstetrics had refrained from performing any delivery of babies, that the patients who underwent a head trauma had not been taken to many of the trauma clinics, and even these services had been closed down, and again, the services in some health institutions had been minimized; hence, the negative effects of negative medical practices in providing health services have been emphasized [12], which is thought to be associated with the fact that the viewpoints of the surgeons who participated in our study over the concept of medical malpractice that will lead to defensive medical practices are inadequate. It also turned out that the professor doctors and associate professors, when compared with the specialists and medical practitioners, had kept away less from the patients with a high risk of filing a lawsuit in terms of medical malpractice (p=0,003), and they also had refused the patients with a high medical complication risk less than the others (p<0,001) and had not requested further examination so as to avoid any medical malpractice allegations against them (p<0,001). It also followed that the professor doctors and associate professors, when compared with the specialists and medical practitioners, had attached more importance to the informed consent forms (p=0,002). The professor doctors proved to have refrained from performing medical malpractice less than the other groups of doctors (p=0,021). It appeared that as the number of the professional years of the physicians increased, they refrained less from the patients at risk in terms of medical malpractice (p=0,001), that they requested fewer consultations (p<0,001) as well as fewer imaging examinations (p=0,011), that they refused the patients with high complication risk less than the other doctors (p=0,017), and that they transferred patients less when they had a treatment opportunity at hand (p=0,035).

Also in the study conducted by Akıncı et al., it was seen that as the seniority degree increased in anaesthesiologists, the defensive medical practices seemed to decrease [1]. The increase in the seniority degree and experience in medical science is thought to be in accordance with the increase in the self-confidence in the practices of medical science. 80,2% of the physicians who participated in our research declared that they had received no in-service training on medical malpractice, whereas 19,8% of them declared that they had received an in-service training at least once.

On the other hand, in the study conducted by Kumral et al., 79.5% of the physicians who took part in the research answered 'No' to the question, 'Do you have enough knowledge as to the present legal regulations regarding medical practice errors?' [11]. These data suggest that adequate amount of education regarding malpractice in the medical faculties in our country is not provided, in addition to which these data can also be associated with the fact that no in-service training is provided at a sufficient level in health institutions and organizations, either.

While 82% of the physicians who took part in our research declared that they had not been exposed to any medical malpractice lawsuit at all, 18% of them declared that they had been exposed to medical malpractice lawsuit at least once. It appeared that those with a medical malpractice lawsuit, when compared with those who had none, had significantly requested further examinations (p=0,002) as well as more consultations (p=0,024), and that they had hospitalized more patients with no indication (p=0,003), had requested more imaging examinations (p=0,001) and had refrained more from making mistakes (p=0,002) so as to guard themselves against any medical malpractice allegations against them.

In our research area, the defensive medical practices of the physicians who had confronted with a judicial process were seen to have increased since the physicians did not want to be subjected to another judicial process once again. In the study conducted by Yılmaz et al., it was observed that the physicians who had referred to negative defensive medical practices at most were the members of professional fields who had confronted with malpractice allegations at most [13].

In conclusion, most of the physicians stated that they requested further medical examinations to guard themselves against any malpractice lawsuit, that they prescribed more medications to be guarded against medical malpractice allegations, that they kept away from the patients who were highly likely to file a lawsuit so as to protect themselves from any malpractice allegations, that they requested further consultations and used the imaging examinations more frequently, that they explained the medical practices more in depth to protect themselves, and that they kept the medical records more in detail, in addition to which they avoided the treatments with high complication risk, attached more importance to the informed consent forms and transferred the patients at risk although they had a treatment opportunity available. Separately, again, the majority of the physicians, pointed out the fact that they refrained from making any medical mistakes and they had the risk of confronting with any medical malpractice lawsuit at any moment under their working conditions.

Defensive medical practices bring about undesired consequences, such as setbacks in health services as well as economic losses. Both in medical education and in 'in-service' trainings, the students who are physician

candidates and the physicians performing this profession need to include more trainings regarding the reflection of the concept of medical malpractice onto legal and economic dimensions as well as the quality dimension of health services.

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