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ORIGINAL ARTICLE

Defensive medicine among obstetricians and gynaecologists in Turkey

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ABSTRACT

In recent years, there has been a remarkable increase in medical malpractice litigations against OB/GYNs in Turkey and globally. This high litigation atmosphere may have changed attitudes, behaviour and practice of OB/GYNs. In the current study, opinions and attitudes of OB/GYNs regarding defensive medicine and to what extent they practice it were investigated. One hundred and eight OB/GYNs participated in the study. All participants found obstetrics and gynaecology riskier when compared with other medical branches and reported that they were increasingly practising defensive medicine. The majority of the OB/GYNs stated that they abstained from many risky interventions and expressed their belief that the high caesarean section (C-section) rate was associated with medico-legal concerns. The majority of the participants supported enacting of a specific medical malpractice law and supported the establishment of medically specialised courts. These regulations demanded by OB/GYNs should be taken into account by health authorities.

IMPACT STATEMENT

- **What is already known on this subject:** In recent years, there has been a remarkable increase in medical malpractice litigations against OB/GYNs in Turkey and globally. Turkey has serious problems with the high C-section rate, which has been suggested to be related to medicolegal issues in a previous research. Fifty-one percent of babies, namely most of them, are delivered via C-section. There is no specific medical malpractice law and medically specialised court in Turkey.
- **What the results of this study add:** It seems like there is a professional liability crisis among OB/GYNs in Turkey. OB/GYNs reported that they were increasingly practising defensive medicine, and stated that they abstained from many risky interventions. A high C-section rate was found to be related to medicolegal concerns in OB/GYNs' perspective in the current study. OB/GYNs demanded some reasonable regulations.
- **What the implications are of these findings for clinical practice and/or further research:** Regulations demanded by OB/GYNs, which were probed in the current study, such as enacting a specific medical malpractice law and establishment of a medically specialised court, should be taken into account by health authorities in Turkey. The findings of the current study is believed to produce important results for the success of Health transformation programme put into practice in Turkey, which was not able to stop increasing C-section rates. Studies evaluating the direct or indirect costs related to defensive medicine practices of OB/GYNs in Turkey should be performed in subsequent research.

KEYWORDS

Defensive medicine; obstetricians and gynaecologists; Turkey; medical malpractice; health transformation programme

Introduction

Defensive medicine, in a general sense, is a term that describes the actions taken by the health professionals to reduce the probability of being sued rather than helping the patient (Asher et al. 2013).

Defensive medicine not only damages its potential to treat patients but also poses health risks. Defensive medicine interferes with the patient and physician relationship. It results in increased healthcare costs (Sekhar and Vyas 2013). The increased health care costs may be due to direct and indirect costs of defensive medicine. For example, the annual cost of defensive medicine in the American Health Care System was has been estimated to be $200 billion, (Solaroglu et al. 2014). It is hard to conclude an exact amount because it is difficult to measure the indirect costs of defensive medicine accurately, it may be more than expected.

There is negative- and positive-defensive medicine depending on the circumstances. On one hand, positive-defensive medicine may emerge as unneeded hospitalisations, prescriptions or diagnostic tests and procedures which are unnecessary. On the other hand, negative defensive medicine includes abstaining from necessary procedures, treatments or hospitalisations that are assumed risky (Sekhar and Vyas 2013).

Generally, obstetrics and gynaecology is considered as a risky medical branch. Unlike other branches, obstetrician/gynaecologists (OB/GYNs) are dealing with both mother and foetus. The possibility of complications is higher than when compared with other medical branches (Büken et al. 2004).

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In recent years, litigation has become a major problem for OB/GYNs globally (Barbieri 2006; Xu et al. 2008). Data from various countries indicate that mostly OB/GYNs are exposed to medical malpractice litigation (AlDakhil 2016). For example, in a report, 5% of OB/GYNs were found to have been sued for malpractice in the previous year. It was also reported that 34% of OB/GYNs had lawsuits and the rate was one of the highest (Jena et al. 2011).

In the United States, the malpractice insurance fees of OB/GYNs are increasing constantly and compensations requested have reached or exceeded $250,000 per claim. Some of the OB/GYNs quit their jobs or abstain from some risky treatments or high-risk patients (Asher et al. 2013).

In recent years, there has been a rapid increase in medical malpractice litigation also in Turkey. Similar to the other studies medical malpractice litigations are mostly filed against OB/GYNs (Büken et al. 2004).

This high litigation atmosphere may change attitudes, behaviour and practices of OB/GYNs. Therefore, in the current study, opinions and attitudes of OB/GYNs regarding defensive medicine and to what extent they practice defensive medicine are investigated.

Materials and methods

The current study was a descriptive cross-sectional study. OB/GYNs who agreed to participate were included in the study and were asked to complete the survey. Participation in the study was completely voluntary.

The questionnaire created for this study was prepared in the light of the previous studies and clinical experience. The survey was performed on six OB/GYNs and they were requested to criticise the content of the questionnaire. The questionnaire's final version was completed according to the feedback received. The questionnaire was validated with a pilot questionnaire conducted with 10 OB/GYNs.

With this self-administered survey, the demographic characteristics, opinions and attitudes and practice of the OB/GYNs regarding defensive medicine and to what extent they practice defensive medicine are investigated. The OB/GYNs who were retired, did not work as an OB/GYN, or those who were deceased or had moved abroad, were not included in the study.

The questionnaire was able to be distributed to 200 OB/GYNs working at different settings. We have not been able to reach a reliable database of e-mail addresses of OB/GYNs nationwide. The questionnaire was e-mailed to participants whose e-mail addresses were available. Also aiming to reach a maximum number of participants, some OB/GYNs were reached in their institutions and the questionnaires were delivered.

Approximately, 6173 OB/GYNs had compulsory malpractice insurance meaning they were actively working, according to statistics retrieved from insurance information and monitoring centre (insurance information and monitoring centre official web site).

A priori power analysis was performed with an error of 0.05 and a power of 0.8, and 90 participants were calculated to be needed. Assuming possible dropouts, the sample size was increased to a minimum of 100 participants. A total of 108 out of the 200 distributed questionnaires were returned. The response rate was 54%.

Table 1. Physician characteristics ($n = 108$).

		n (%)
Age (years)	38.42 ± 8.7	
Sex	Male	57 (52.8)
	Female	51 (47.2)
Duration practising OB/GYN as a specialist (years)	8.3 ± 3.1	

Statistics

For statistical analysis version 11.5 of the Statistical Package for Social Sciences (SPSS Inc., Chicago, IL) was used. Descriptive characteristics including frequency and summary characteristics were calculated for variables of interest.

Results

Demographic data

One hundred and eight OB/GYNs participated the study. Fifty-seven (52.8%) of the OB/GYNs were male and 51 (47.2%) were female. Fifteen (13.9%) of OB/GYNs who accepted to participate the study were working in private hospitals, 42 (38.9%) in university hospitals and 51 (47.2%) of them were working in the state or training and research hospitals. Demographic characteristics of the participants are given in Table 1.

Perceptions of the OB/GYNs

All participants found obstetrics and gynaecology riskier when compared with other medical branches, and they stated their belief that there has been an increase in malpractice litigations against OB/GYNs in recent years (Table 2).

All participants expressed that they were increasingly practising defensive medicine (Table 2). Results of some recent malpractice litigations with high compensations which took place in the media were found to have a negative effect on the motivation of all participants in the survey (Table 2). Majority (88%) of the participants thought that the high caesarean section (C-section) rate in Turkey was related with medico-legal concerns (Table 2). Seventy-five participants (69.4%) believed that informed consent forms would not protect them in case of a medical malpractice claim (Table 2).

Procedures

Most of the participants stated (89.8%) that they abstained from many interventions which they could actually perform due to medico-legal concerns. The majority (96.3%) also stated that they referred foetal anomaly ultrasonography scans to the radiology department again with medico-legal concerns.

Ninety (83.3%) of them remarked that they had stopped performing amniocentesis while they had competency and

Table 2. Opinions, beliefs, knowledge, attitudes, and practices of obstetricians and gynaecologists regarding defensive medicine ($n = 108$).

Question	Yes, *n* (%)	No, *n* (%)	Not responded or Not sure
How do you assess the risk of Obstetrics and Gynaecology when compared with other branches? Do you find it riskier?	108 (100)	0 (0)	0 (0)
Do you think there has been an increase in malpractice litigations against OB/GYNs in recent years?	108 (100)	0 (0)	0 (0)
Do you think OB/GYNs are increasingly practising defensive medicine with fear of possible litigation cases?	108 (100)	0 (0)	0 (0)
Do you think high caesarean section rates are related with medico-legal reasons?	95 (88)	7 (6.4)	6 (5.6)
In recent years, have you ever abstained from interventions actually you can perform due to medico-legal concerns?	97 (89.8)	11 (10.2)	0 (0)
Do you refer foetal anomaly ultrasonography scans to the radiology department with medico-legal concerns?	104 (96.3)	4 (3.7)	0 (0)
Do you think that compensations requested in medical malpractice litigations are high?	108 (100)	0 (0)	0 (0)
Do you support setting an upper limit for the compensation claims in medical lawsuits?	91 (84.2)	11 (10.2)	6 (5.6)
Do you think you may face with problems in case of a litigation because the term of 'complication' is not fully-defined in Turkish law system?	108 (100)	0 (0)	0 (0)
Do you think that within the framework of the current Turkish Penal Code, it is possible for courts to distinguish 'complication' from 'medical malpractice' precisely?	7 (6.5)	92 (85.2)	9 (8.3)
Do you support establishment of a specific medical malpractice law in which 'complication' and 'medical malpractice' terms are well defined?	102 (94.4)	6 (5.6)	0 (0)
Do you support the establishment of medically specialised courts for the trials of healthcare professionals?	96 (88.8)	6 (5.6)	6 (5.6)
Are the limits and coverage of compulsory physician professional liability insurance sufficient for OB/GYNs?	0 (0)	91 (84.3)	17 (15.7)
Do you support establishment of informed consent forms which are prepared and updated by Turkish Ministry of Health?	86 (79.6)	11 (10.2)	11 (10.2)
Can you receive the informed consent forms one day prior to the interventions fully informing the patient in detail?	11 (10.1)	91(84.3)	6 (5.6)
Do you think receiving the informed consent form will protect you in case of a medical malpractice litigation?	11 (10.2)	75 (69.4)	22 (20.4)
Do you think lawyers' increasing interest on medico-legal field as a result of recession in job opportunities, and high compensation rates may be a factor contributing to increasing litigation cases?	102 (94.4)	0 (0)	6 (5.6)
Do you have sufficient quantity and quality of equipment in your institutions?	12 (11.1)	80 (74.1)	16 (14.8)
Do you think that may cause medico-legal problems?	85 (78.7)	12 (11.1)	11 (10.2)
Do you think you have sufficient number of helping staff, midwives and nurses in your institutions?	60 (55.5)	42 (38.9)	6 (5.6)
Do you have to perform operations with an anaesthesia technician under your responsibility instead of an anaesthesiologist sometimes?	54 (50)	47 (43.5)	7 (6.5)
Can you reach required all types and quantities of blood products when needed?	55 (50.9)	53 (49.1)	0 (0)
Did some recent malpractice litigations with high compensation amounts that took place in the media have a negative effect on your motivation?	108 (100)	0 (0)	0 (0)

Item	Very often	Frequently	At the same frequency	Rarely	Never
How often do you perform amniocentesis while you were performing previously and had the competency?	0 (0)	0 (0)	8 (7.4)	10 (9.3)	90 (83.3)
How often do you perform forceps-assisted vaginal delivery when indicated?	0 (0)	0 (0)	0 (0)	0 (0)	108 (100)
How often do you perform vacuum-assisted vaginal delivery when indicated?	0 (0)	0 (0)	0 (0)	54 (50)	54 (50)

Item	
How many patients per day do you examine in polyclinics?	50.25 ± 9.5
How many patients per day should you examine in polyclinics?	29.3 ± 3.4
What is acceptable for you in case of setting an upper limit for the compensations? (Based on the salary of a specialist physician working in public)	6.9 ± 3.2

OB/GYN: obstetrician/gynaecologists.

were performing previously. All participants in the survey stated that they stopped performing forceps assisted vaginal delivery, and nearly half of them stated that they stopped performing vacuum-assisted vaginal delivery when indicated (Table 2).

Patients

Most of the participants (84.3%) said they could not receive informed consent forms one day prior to the interventions fully informing the patient in detail.

Laws–regulations

All the participants found the compensations requested in case of medical malpractice litigations very high. The majority (84.2%) supported setting an upper limit for compensation in malpractice litigations. Approximately seven times the monthly salary of a specialist physician working in public was stated to be a reasonable upper limit by the participants (Table 2).

All participants believed that they may face difficulties in case of a litigation because 'medical complication' term was not fully-defined in the Turkish legal system (Table 2). Most of the participants (85.2%) thought that within the framework of the current Turkish Penal Code, it was not possible for courts to distinguish 'complication' from 'medical malpractice' precisely. Nearly all participants (94.4%) supported enacting of a specific medical malpractice law in which 'complication' and 'medical malpractice' terms were well defined. Most of the participants (88.8%) also supported the establishments of medically specialised courts.

A majority of the participants (84.3%) thought the limits and coverage of compulsory physician professional liability insurance were not sufficient. Eighty-six (79.6%) of the participants supported the establishment of uniform informed consent forms which were prepared and updated by the Turkish Ministry of Health (TMOH) (Table 2).

Nearly all the participants (94.4%) expressed that lawyers' increasing interest in the medico-legal field was a result of the recession in job opportunities, and high compensation rates contributed to increasing litigation cases (Table 2).

Personnel and equipment

A majority of the participants (78.7%) stated that they did not have sufficient quantity and quality of equipment in their institutions and this situation may cause medico-legal problems. Forty-two (38.9%) participants said that there was not a sufficient number of helping staff, midwives and nurses in their institutions, and half of them (50%) stated that they had to perform operations with an anaesthesia technician instead of an anaesthesiologist, sometimes. Nearly half of the participants (49.1%) stated that it was not possible to reach all types and quantities of blood products when needed (Table 2).

The OB/GYNs participated in the research stated that they examined 50.25 ± 9.5 patients per day in polyclinics. As an answer to the question of 'How many patients should be examined per day?', 29.3 ± 3.4 was given as an answer (Table 2).

Discussion

Participants expressed that they were increasingly practising defensive medicine. A majority of the OB/GYNs stated that they abstained from many risky interventions. Participants expressed their belief that the high C-section rate was associated with medico-legal concerns of OB/GYNs. A majority of the participants supported enacting of a specific medical malpractice law and supported the establishment of medically specialised courts.

An increase in medical care standards and expectations of patients, and widely publicity of medical malpractice cases in the media may be associated with increasing litigations (Büken et al. 2004). In the current survey, OB/GYNs thought that lawyers' growing interest on medico-legal fields increased medical malpractice litigations. High compensation amounts in some litigation cases which have been brought to the media's attention were found to demoralise OB/GYNs.

It was found in the survey that a majority of the participants abstained from risky interventions with fear of medical litigation. It was also found that despite having competency, most of the OB/GYNs abstained from amniocentesis and instrumental deliveries such as vacuum and forceps application.

These negative-defensive medicine procedures may have important effects on the health care system for example, not using manoeuvres such as external cephalic version and instrumental delivery which have the potential to decrease C-section rate (Rauf et al. 2007; Collaris and Tan 2009; Shaaban et al. 2012). The C-section rate is already 51% in Turkey which is far beyond the reasonable level (The Ministry of Health of Turkey Health Statistics Year Book, 2014). In a previous study, a negative correlation was found between C-section rate and instrumental delivery rate (Hankins et al. 2006). Due to the defensive medicine practices, some interventions are performed rarely and this may cause residents never to learn the processes such as forceps, or vacuum-assisted vaginal delivery resulting in a vicious cycle.

Participants abstained from performing foetal anomaly scans and referred patients to a radiologist. Referring the majority of the obstetric cases to a radiologist for foetal anomaly scan may increase the workload of radiology clinics. Patients who really need radiology examination may not receive these services at time due to workload.

Unnecessary referral of the patient for procedures such as amniocentesis despite competency of the physician places a burden on the patient. Some patients may not get this service due to distance or economic shortage. Unnecessary referrals may also cause a workload in the referred institutions.

Some strategies have the potential to reduce defensive medicine practices. There is not a specific medical malpractice law in Turkey (Tümer and Dener 2006). Turkish Penal Code's negligence and conscious negligence do not meet

complication and malpractice terms. These were found to create uneasiness among the OB/GYNs. Enacting a specific malpractice law in which distinguishes complication and medical malpractice are well defined is the demand of OB/GYNs. Pioneering of TMOH for such an initiative is considered to be useful.

In addition, there is no medically specialised court in Turkey (Solaroglu et al. 2014). Absence of a medically specialised court in Turkey is an important deficiency. Most of the participants stated that they believed it was not possible to distinguish complication from malpractice in existing courts with the current legal system in Turkey. In a previous study among neurosurgeons, nearly 90% of them expressed the same opinions in accordance with the current study (Solaroglu et al. 2014). Most of the participants in the survey expressed their requests about establishments of these courts. Improvements can be achieved with medically specialised courts in this regard and medical litigations can be concluded fast and more precisely.

Medical malpractice insurance is compulsory for every physician in Turkey. OB/GYNs pay the highest fees for malpractice insurance premium, and they are considered in the highest risk group. However, the participants in the survey believed that the insurance coverage for OB/GYNs was insufficient. High compensations which exceeded the medical insurance coverage took place in the media recently. And this seemed to frighten the OB/GYNs.

At this point, it is worth remarking that the participants supported setting an upper limit for compensation and this came to light via the survey. The OB/GYNs supported the upper limit for compensations to be approximately seven times the monthly salary of a specialist physician working in public.

OB/GYNs stated in the survey that they examined approximately 50 patients in a day. This number is considered too high and may be associated with increased medical litigation atmosphere. A very short time can be reserved for each patient and this may create basis for malpractice claims. Indeed, OB/GYNs have a demand to reduce the number in the survey. Health policy makers should support the efforts for reducing the number of patients examined per day or if it is not possible, appropriate malpractice laws consistent with realities of Turkey should be prepared.

The OB/GYNs also mentioned about some lack of infrastructure and staff in the survey. The elimination of these deficiencies is important.

Turkey has serious problems with the very high C-section rate. Fifty-one percent of babies, are delivered via C-section (The Ministry of Health of Turkey Health Statistics Year Book, 2014) and this is the highest number of the OECD (http://www.forbes.com/sites/niallmccarthy/2016/01/12/which-countries-have-the-highest-caesarean-section-rates-infographic/#2dd2b6df44ff). Even though Turkey banned elective C-sections for maternal request by law (https://www.theguardian.com/world/2012/jul/13/turkish-doctors-fines-elective-caesareans), the C-section rates have increased continuously. A majority of the participants thought that high C-section rate was related with medico-legal concerns of the OB/GYNs. We believe that this finding is worth taking into account by health policy makers in Turkey.

It seems like there is a professional liability crisis in obstetrics and gynaecology branch in Turkey and a reform should be taken in this regard. This reform is believed to be economically efficient (Guirguis-Blake et al. 2006). Such a reform should prevent opportunistic compensation claims but losses of the patients due to medical malpractice should be considered to be paid from a common fund without a need of a long trial period and without directing OB/GYNs to defensive medicine. We believe that it will also provide to reduce the calculable and incalculable economic costs connected with defensive medicine

There are some limitations to the current study. We think results of the study can be generalised for OB/GYNs in Turkey only to a certain extent. Similar studies should be performed on a larger scale.

Naturally, the conscious practice of defensive medicine could be investigated in our study. We do not know the dimensions of unconscious defensive medicine practice in this regard.

Defensive medicine is self-reported in our study. Although people may overstate or underestimate this situation, it was important that a consensus answer was reached in many questions. We used mainly yes/no questions instead of using a scale from 1 to 5 or 10. Further research using this kind of scale may produce better results.

Conclusions

It seems like there is a professional liability crisis in obstetrics and gynaecology branch in Turkey. It was found in the current study that defensive medicine is widely practised by the participants. The participants stated that they abstained from many risky interventions. Majority of the participants thought that high C-section rate in Turkey was related to medico-legal concerns.

OB/GYNs demand some reasonable regulations such as enacting a specific medical malpractice law and establishment of medically specialised courts. We suggest that regulations demanded by OB/GYNs should be taken into account by health authorities in Turkey.

Disclosure statement

All authors have no conflicts of interests to declare.

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