Original Article :

Defensive medicine and medical liability: a cross sectional study in Kasr Alainy obstetrics and gynecology hospital

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Abstract

Background and Aims:

Defensive medicine is medicine practiced in such a way primarily to avoid or defend against the threat of malpractice litigation. The rate of practice of defensive medicine has been increasing in recent years across the world. High percentages of defensive medicine have a significant economic cost through affecting doctors' decisions. The problem is compounded in Egypt as it currently lacks a medical litigation law, and doctors in Egypt are tried by the criminal law instead. This study aims to identify the practice of defensive medicine in light of such conditions, as well as highlight some of its causes.

Methods:

This is a cross-sectional study conducted by a self-administered questionnaire among obstetricians and gynecologists of Kasr Alainy University OBGYN Hospital. It included 160 doctors from a total of 250 doctors. Binary logistic regression and Chi square tests were used to calculate the predictors of practice of defensive medicine and its forms.

Results:

(81%) of the doctors practiced at least one form of defensive medicine. Many predictors were significant including duration of practice, gender (male), witnessing a colleague getting sued or personally getting sued, and feeling limited in practice due to the current state of the law.

Conclusions:

The practice of Defensive medicine in Kasr Alainy OBGYN Hospital is considerably high but still in line with other countries. The lack of medical law is a significant factor, but there are other factors affecting the practice of defensive medicine. Efforts to reduce defensive medicine must start with enacting a medical law.

Introduction

Who saves more lives? Doctors or Lawyers? a question that might sound ridicules in the medical field, but the truth is, in its core, medical care is just a service that doctors provide to patients. If the service was not appropriate then the patient has the right to complain, and the next time the

doctor will make certain not to repeat the same mistakes again. So, the lawyer might not have helped improve the medical care for the first patient, but in a way, he helped the next patients to come. Or did he just make the doctors act in a more defensive manner? This is where the concept of "Defensive Medicine" was born.

Defining Defensive medicine has been a difficult task throughout the years, as the definition can differ depending on your point view. A broad way to define it would be it is medicine practiced in such a way primarily to avoid or defend against the threat of malpractice litigation or other self-protective motives.[1]

It is classified according to its nature into assurance behavior and avoidance behavior. Assurance behavior (also known as positive defensive medicine) involves actions taken by the doctor to assure the patient and the court, in case of trial, that a sufficiently high standard of care was given. These actions are taken mainly to forestall patients from filing claims or lawsuits and to provide legal defense in case of litigation. Avoidance behavior describes the doctor's

decision to avoid situations which could potentially lead to legal problems. A doctor may avoid performing risky procedures or interventions or avoid caring for litigious patients either by referring them or refusing them, given it is not an urgent case.[2]

It is important to make the distinction that defensive medicine is not malpractice and is not necessarily wrong or unethical, and indeed it may in many cases lead to improving the level of healthcare received by the patient.[3,4] As long as the patient is not in need of urgent medical care, and as long as there are other doctors capable of providing the same service, then a doctor is under no obligation to accept a specific patient.[5]

The problem with defensive medicine, then, lies mainly in sustainability, but also with the unnecessary pain and infection risk inflicted on the patients. Worldwide, this leads to large sums of money wasted by insurance companies and governments for investigations and medication. And in some cases, patients pay for their investigations themselves.[6-8]

On the other hand, with the improvement in modern medicine, patients' expectations have risen and they tend to sue their doctors when they deliver care, they presume to be less than perfect.[9,10] Nevertheless, evidence clearly indicates that working under the threat of legal prosecution (medical liability) creates a climate of fear that is not conducive to the optimal use of staff in a medical system.[4,11] Therefore, doctors practice defensive medicine worldwide to defend themselves against prosecution and

avoid paying the ever-increasing cost of medical malpractice settlements.[12]

However, in Egypt the problem is even more complex in the absence of any medical law that governs medical affairs. Up until the day of submitting this paper, doctors in Egypt are tried by the criminal law. This means doctors can be arrested, held in custody, and even given a prison sentence simply for practicing medicine. The law system in Egypt does not differentiate between medical complications, medical malpractice, and criminal behavior.[13]

Methods

Design: Cross-sectional study.

Study Setting: The study was conducted in Kasr Alainy University OBGYN Hospital.

Study Population: All obstetricians and gynecologists and residents of the OBGYN Hospital were eligible to enter the study (250 physicians).

Data Collection

The data was collected by a self-administered questionnaire, which was approved by OBGYN hospital and the teaching staff management. The data was collected between October 2019 and January 2020. The questionnaire provided basic information about the study. Implied and verbal consents were obtained from every doctor that participated in this study. It was stated in the questionnaire that by filling in the questionnaire that they consent to participate in the study.

The sampling technique used was convenience sampling, as it was difficult to reach all the doctors in the OBGYN hospital and the teaching staff.

Out of a total of 250 doctors, 160 doctors filled the questionnaire. Of the remaining, 31 doctors declined to participate and 59 could not be reached.

Questionnaire

A modified version of a questionnaire of a previous study conducted in Italy by Maurizio Catino titled "Blame Culture and Defensive medicine" was used in this study.9 The questionnaire included both dependent and independent variables. The independent variables included: age, gender, academic degree, years of practice of obstetrics and gynecology, years of practice in the private sector, witnessing malpractice claims, experiencing malpractice claims, being sued, and feeling limited in their practice due to the current state of the law.

Dependent variables included: the practice of defensive medicine and its forms which was measured on a Likert scale with the fixation of the causative factor as fear of medicolegal problems, which is the main difference from the Questionnaire from the original study by Maurizio Catino, which

addressed multiple factors that influence the practice of defensive medicine.

As this study is mainly concerned with studying the effect that the lack of a medical law has on the practice of Defensive medicine, we controlled for and excluded the other factors. Our questions were precise (specifying the reason as "medico-legal concern" for each defensive medicine behavior) and we made sure to verbally double check the reason for defensive medicine behavior when reported.

Seven forms of defensive medicine were included: Over documentation, over investigation, prescribing medications more than indicated, prescribing invasive procedures that lead to safer short-term outcomes, unnecessary referral to other specialties, avoiding risky procedures and avoiding high risk patients. If participants reported avoiding certain procedures or interventions, we verbally confirmed that they were capable of doing it, that they were permitted to do it, that it was indicated, and that no better alternatives existed at the time.

The questionnaire also included other questions regarding doctors' familiarity with defensive medicine and doctors' opinion regarding the current state of the law.

Data Analysis

The analysis was performed using SPSS for Windows version 24.

Independent variables were divided into groups, and chi square test and binary logistic regression were used to analyze predictors of frequent practice of defensive medicine and each of its seven forms. The dependent variables were doctors who reported practicing at least one form of defensive medicine, each form of defensive medicine practiced, and the number of forms practiced for each doctor.

The independent variables were: (physicians' personal data): age, sex, academic degree, years of practice in obstetrics and gynecology, and years of practice in the private sector in addition to two objective measures (experienced and witnessed malpractice claims) and one subjective measure (feeling limited in their practice due to the current state of the law) from the following question :On a scale of 1-3 how limited do you feel your physician-patient relationship is in the light of the current state of litigation law (Criminal law), where (1) represents "not limited", (2) "slightly limited", and (3) "severely limited".

Binary logistic regression was used to predict the relationship between predictors for independent variables that included duration of practice, gender, witnessed malpractice claims, experienced malpractice

claims, feeling limited in their practice due to the current state of the Law, and the dependent variables included practice of at least one form of DM, number of forms, and each of the forms separately.

Ethical consideration

Ethical approval was obtained from Kasr Alainy OBGYN hospital and teaching staff management after reviewing the questionnaire of the study.

Information about the study was provided on the first page of the questionnaire. In addition, it was stated in the questionnaire that by filling it that they consent to participating in the study. Moreover, a verbal explanation of the study and its goals was provided to the doctors and verbal consent was obtained before filling the questionnaire. The doctors who didn't consent to participating were excluded from the study. This was done because obtaining a written consent proved to be problematic in our pilot analysis, as many doctors would hesitate to share their names and signatures due the sensitivity of the topic, and so we decided that an implied consent and a verbal one would be more appropriate.

Results

Respondents' characteristics

Males represented two thirds of the population (66.3%), the average age of the population was 39 years, and the doctors in the study were well experienced with an average of 14 years of practice, and an average of nine years of practice in the private sector. (Table 1)

Table 1. Respondents' characteristics, awareness, and personal experience with Defensive Medicine

Characteristic	No. (%) of Physicians (N = 160)
Gender	
Male	106 (66.3)
Female	54 (33.8)
Academic degree	
Professor	40 (25)
Associate Professor	35 (21.9)
Lecturer	19 (11.9)
Assistant Lecturer	27 (16.9)
Resident	39 (24.4)
Duration of practice	
< 5 years	48 (30)
6-15 years	46 (28.7)
16-25 years	42 (26.3)
>25 years	24 (15)
Duration of practice in private sector	
Doesn't practice in private sector	49 (30.6)
< 5 years	32 (20)
6-15 years	41 (25.6)
>15 years	38 (23.7)
Witnessed malpractice claims of colleagues	
Yes	144 (90)
No	16 (10)
Experienced malpractice claims personally	
Yes	39 (24.4)
No	121 (75.6)
The effect of the current state of litigation law (Criminal law) on physician-patient relationship	
No effect	38 (23.8)
Limited	60 (37.5)
Very limited	62 (38.8)
familiarity with the concept of defensive medicine	
Familiar	109 (68.1)
Not familiar	51 (31.9)

Characteristic	No. (%) of Physicians (N = 160)
Believes written consent gives protection from litigation	
Always Sometimes Never	16 (10) 73 (45.6) 71 (44.4)
Believes the current process of the law can differentiate between "complications" and "medical malpractice"	
Always Sometimes Never Not sure	1 (0.6) 33 (20.6) 109 (68.1) 17 (20.6)

According to academic degree, professors represented the largest group at 25% of the population with an average 27.75 years of practice, followed by residents at 24% with an average of 2.3 years of practice, and the smallest group was lecturers (12%) with an average of 12 years of practice. (Table 2)

Nearly two third of the doctors 68.1% (n=109) were familiar with the concept of defensive medicine, and almost all of them were not strange to the sight of a doctor experiencing malpractice claims, where 90% (n=144) of doctors reported that they personally witnessed colleagues being accused or tried with malpractice. Moreover, when it comes to personal experience, 24% (n=39) of doctors have experienced malpractice claims before. Of the doctors who have been sued, 24 mentioned the cause of the lawsuit, where the most frequent cause was postoperative wound infection which represented six cases, followed by postpartum hemorrhage with three cases.

Table 2. Respondents' demographic characteristics and work experience in relation to their academic degree

Academic degree	Percentage from total population (160	Gender	Average age	Average duration of practice	Average years in private sector
Professor	(n=40) 25%	(M 72.5% (n=29 (F 27.5% (n=11	years 52.5	years 27.75	years 20.83
Associate Professor	(n=35) 22%	(M 68.6% (n=24 (F 41.4% (n=11	years 42.34	years 17.8	years 11.48
Lecturer	(n=19) 12%	(M 78.9% (n=15 (F 21.1% (n=4	years 36.40	years 12	years 6.94
Assistant Lecturer	(n=27) 17%	(M 74.1% (n=20 (F 25.9% (n=7	years 31.25	years 6.5	years 1.83
Resident	(n=39) 24%	(M 46.2% (n=18 (F 53.8% (n=21	years 28.3	years 2.3	years 0.42

Of the total claims, only 31% (n=12) of the claims made it to trial, out of which, 50% (n=6) ended in an out of court settlement and 50% (n=6) concluded with a court ruling. Only one of these cases ended up ruling in favor of the plaintiff.

When the doctors were asked how limited they felt their physician-patient relationship is in light of the current state of litigation law for doctors (Criminal law),

39.4% (n=63) stated that the relationship is severely limited and 38.1% (n=61) stated that it is slightly limited and 22.5% (n=36) stated that the current state of the law poses no limitation for them.

Most respondents lack trust in the current state of litigation law, as 44.4% (n=71) stated that written consent never protects from litigation and 45.6% (n=73) said it sometimes protects. In addition, when asked if the process of the law can differentiate between medical complications and malpractice, 68.1% (n=109) said that it never does.

Practice of Defensive Medicine

Almost all the participants practiced at least one form of defensive medicine 91.3% (n=146). 50% (n=80) of the participants practiced (1-3) forms of defensive medicine, while 41.2% (n=66) practiced >3 forms of defensive medicine. (Table 3)

The most practiced form of defensive medicine was over-documentation at 65% (n=104), and when we excluded the percentage of participants who practiced over-documentation alone, which was 10% (n=16), the percentage of participants who practiced at least one other form of defensive medicine became 81.3% (n=130). (Table 3) This was done due to the subjective nature of over-documentation, the lack of clear guidelines for the documentation of patients' records in Egypt, and the lack of computerized archives for patients' data, thus we believe that practicing over-documentation alone should not be considered as practicing defensive medicine.

Table 3. Respondents' practice of defensive medicine and number of forms practiced

Number of forms of defensive medicine	(Percentage from total population (n=160
Practice at least one form of defensive medicine	(n=146) 91.3%
Practice over-documentation only	(n=16) 10%
Practice at least one form of defensive medicine (excluding over-documentation	(n=130) 81.3%
Practice (1-3) forms of defensive medicine	(n=80) 50%
Practice >3 forms of defensive medicine	(n=66) 41.2%

The second most prevalent form of defensive medical practice was avoiding risky interventions at 46.2% (n=74), but professors were significantly less likely to avoid risky interventions compared to other degrees where only 27.5% professors would do so. The next behavior was ordering more investigations than medically indicated at 44.4% (n=71), followed by referring patients to other specialties in unnecessary circumstances at 42.5% (n=68). Residents were significantly more likely to refer

patients to other specialties at 77.1%. The next behavior was avoiding high risk/

litigious patients at 38.1% (n=61), and here professors were significantly less likely to avoid patients at 22.5%. The frequency of practice of all the forms of defensive medicine in relation to respondent academic degree is shown in table 4. (Table 4)

Table 4. Frequency of practice of all the forms of defensive medicine in relation to respondent academic degree*

Behavior practiced	All respondents No. (%)		Professors (n=40) No. (%)		Associate professor (n=35) No. (%)		Lecturers (n=19) No. (%)		Assistant Lecturers (n=27) No. (%)		Residents (n=35) No. (%)	
	1-3 times or more	Never	1-3 times or more	Never	1-3 times or more	Never	1-3 times or more	Never	1-3 times or more	Never	1-3 times or more	Never
Over documentation	104 (65)	56 (35)	24 (60)	16 (40)	19 (54.3)	16 (45.7)	14 (73.7)	5 (26.3)	22 (81.4)	5 (18.6)	25 (71.4)	14 (28.6)
Order investigations	71 (44.4)	89 (55.6)	13 (32.5)	27 (76.5)	17 (48.6)	18 (51.4)	7 (36.8)	12 (63.2)	15 (55.6)	12 (44.4)	19 (54.3)	20 (55.7)
Prescribe medications	23 (14.4)	137 (85.6)	5 (12.5)	35 (87.5)	4 (11.4)	31 (88.6)	3 (15.8)	16 84.2)	4 (14.8)	23 (86.2)	7 (20)	32 (80)
Refer to other specialties	68 (42.5)	92 (57.5)	12 (30)	28 (70)	12 (34.3)	23 (65.7)	7 (36.8)	12 (63.2)	10 (37)	17 (63)	27** (77.1)	12 (32.9)
Prescribe invasive procedures	59 (36.9)	101 (63.1)	12 (30)	28 (70)	18 (51.4)	17 (48.6)	84 (42.1)	11 (57.9)	8 (30)	19 (70)	13 (37.1)	26 (62.9)
Avoid risky interventions	74 (46.2)	86 (53.8)	11** (27.5)	29 (72.5)	18 (51.4)	17 (48.6)	9 (47.4)	10 (52.6)	15 (55.6)	12 (44.4)	21 (60)	18 (40)
Avoid high risk/litigious patients	61 (38.1)	99 (61.9)	9*** (22.5)	31 (77.5)	14 (40)	21 (60)	9 (47.4)	10 (52.6)	14 (51.9)	13 (48.1)	15 (42.9)	24 (57.1)

*Continuity-Adjusted Chi-Square tests were used to test for significant differences between the proportion within each Academic degree group who practiced the form of defensive medicine and the corresponding proportion for all other Academic degree groups combined.

**P value ≤ .01 when compared with "1-3 times or more" of all other Academic degrees

*** P value ≤ .05 when compared with "1-3 times or more" of all other Academic degrees

The next defensive medicine practice is prescribing invasive procedures out of fear of litigation at 36.9% (n=59), and the least common form was prescribing more medications than medically indicated 14.4% (n=23)

The frequency of practice of assurance and avoidance behavior is shown in figures 1 and 2. (Figures 1,2)

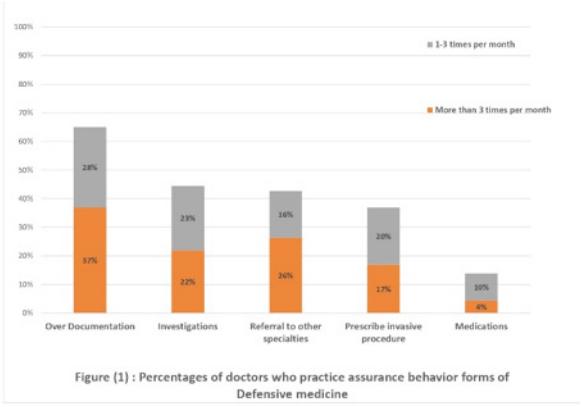


Fig. 1. shows percentages of all forms of assurance behavior practice of defensive medicine and frequency of practice of each of form

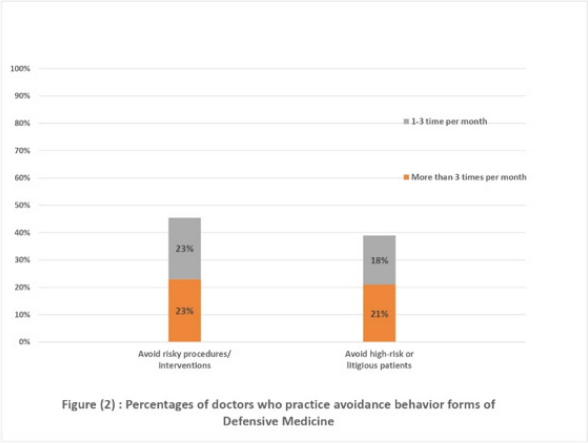


Fig. 2. shows percentages of all forms of avoidance behavior practice of defensive medicine frequency of practice of each of form

When viewing the practice of different forms of defensive medicine (excluding over documentation), the doctors that practiced more than 3 forms of DM represent 24.4% (n=39), and the doctors that practiced 1-3 forms represent 56.8% (n=91).

Correlations of Defensive Medicine Practice

All the statistically significant predictors are included in table 5. (Table 5)

Table 5. Statistically significant Multivariate Risk Factors for Physicians Practicing Defensive Medicine and its forms*

Practice of defensive medicine	Significant predictors	Odds ratio (95% CI)	P value
Practice at least one form (excluding over documentation)	Gender (Male)	4.13 (1.52-11.20)	.005
	Feels (Limited) due to governing of doctors by the criminal law*	4.64 (1.45-14.80)	.009
	Feels (Very Limited) due to governing of doctors by the criminal law**	4.98 (1.52-16.32)	.008
	Duration of Practice (Less than 5 years)***	14.55 (3.03-69.85)	.001
	Duration of Practice (6-15 years)***	5.54 (1.35-22.63)	.017
	Duration of Practice (16-25 years)	4.94 (1.31-18.63)	.018
Over Documentation 1-3 times a month or more	No significant predictors		
Ordering more investigations 1-3 times a month or more	Witnessed malpractice claims	6.35 (1.26-31.83)	.025
	Feels (Very Limited) due to governing of doctors by the criminal law**	2.54 (1.01-6.39)	.047
Prescribe more medications 1-3 times a month or more	Experienced malpractice claims	3.33 (1.20-9.30)	.021
Refer patients to other specialties 1-3 times a month or more	Duration of Practice (Less than 5 years)***	5.04 (1.60-15.90)	.006
Avoid risky procedures/interventions 1-3 times a month or more	Feels (Limited) due to governing of doctors by the criminal law*	3.26 (1.23-8.68)	.018
	Feels (Very Limited) due to governing of doctors by the criminal law**	3.96 (1.49-10.49)	.006

Practice of defensive medicine	Significant predictors	Odds ratio (95% CI)	P value
Avoid risky procedures/interventions 1-3 times a month or more	Duration of Practice (6-15 years)***	3.20 (1.06-9.67)	.039
Prescribe invasive Procedures (e.g.: Biopsy) 1-3 times a month or more	No significant predictors		
Avoid high risk / litigious patients 1-3 times a month or more	Feels (Limited) due to governing of doctors by the criminal law*	3.76 (1.20-11.78)	.023
	Feels (Very Limited) due to governing of doctors by the criminal law*	5.63 (1.82-17.45)	.003

- * A single model of independent variables was applied to all the forms of Defensive Medicine to discover predictors, the model for independent variables included all of: Duration of practice, Gender, witnessed malpractice claims, Experienced malpractice claims, limitation of the relationship with patient)
- ** Reference category: (no effect) on patient-physician due to governing of doctors by the criminal law*
- *** Reference category: Duration of Practice (>25 years)

Significant predictors for practicing at least one form (excluding over documentation) included the following: duration of practice (less than 5 years) OR=14.55, duration of practice (6-15 years) OR=5.54, duration of practice (16-25 years) OR=4.94, feels (very limited) due to being governed by the criminal law OR=4.98, feels (limited) due to being governed by the criminal law OR=4.64, and Gender (male) OR=4.13.

Looking at each form of defensive medicine separately, amongst all the significant predictors of defensive medicine practice, witnessed malpractice claims and Feels (Very Limited) due to being governed by the criminal law had the highest odds ratio.

Doctors who witnessed malpractice claims were almost six times more likely (OR, 6.35; 95% CI ,1.26-31.83) to order more investigations than medically indicated, and doctors who felt (severely limited) due to being governed by the criminal law were almost five times more likely (OR,5.63; CI, 1.82-17.45) to avoid high risk / litigious patients, and almost four times more likely (OR, 3.96; CI, 1.49-10.49) to avoid risky procedures/interventions, and more than two times more likely (OR, 2.54;CI, 1.01-6.39) to order more investigations than medically indicated, while doctor who felt (slightly limited) due to being governed by the criminal law were more than three times more likely to avoid high risk / litigious patients (OR, 3.76;CI, 1.20-11.78), and avoid risky procedures/ interventions (OR, 3.26; CI, 1.23-8.68).

Doctors who had less than five years of practice were almost five times more likely to refer patients to other specialties (OR, 5.04; CI,1.60-15.90), and doctors that had 6-15 years of practice were almost four

times more likely to avoid risky procedures/ interventions (OR,3.20; CI, 1.06-9.67).

Doctors who had earlier experienced malpractice claims were more than three times more likely to prescribe more medications than medically indicated (OR, 3.33; CI, 1.20-9.30).

Prescribing invasive procedures and over documentation had no significant predictors.

In addition to regression of different forms, we regressed another dependent variable (which is practicing three or more forms of defensive medicine compared with the rest of the sample) against the same model of independent variables. Two predictors were significant: physician-patient relationship (slightly limited) (OR, 3.97;95% CI, 1.43-11.04), physician-patient relationship (severely limited) (OR, 4.65;95% CI, 1.68-12.87).

Discussion

To our knowledge, only few studies address defensive medicine practice in Egypt. One hundred and sixty responses were collected amongst the available staff members of all degrees who were willing to address the current litigation law in Kasr Alainy OBGYN Hospital. The response rate for this study (64%) was quite good.

A recent study about defensive medicine was conducted in Kasr Alainy, which included only junior doctors, and that study concluded that its practice is prevalent amongst their participants. This is consistent with our study, where participants were more likely to practice defensive medicine if they had less experience.[14]

Changes in the medico-legal landscape with increasing incidents of litigation around the world have made doctors wary of the amount, quality, and type of treatment they offer. This increase in litigation is the main driving force of the increased practice of defensive medicine globally. Percentages of doctors practicing defensive medicine from hospitals around the world include the United Kingdom with 78%[15], the United States of America 93%[16], Italy 77.9%[9], and Japan 98%.[17] Kasr Alainy OBGYN Hospital is in line with this global trend as 81% of its doctors practice defensive medicine.

A recent systematic review in 2019 by Rajender Agarwa et al.[18] explored the effects of different laws and reforms on defensive medicine, quality of care, and physician supply. The study concluded that regulations like caps on non-economic damages in lawsuits, such as harm done by doctors, were directly associated with decrease in defensive medical practice, with no effect on patient care.

However, as per usual, such problems can never be attributed to a single cause.

A multitude of factors play into the practice of defensive medicine, such as the experience of the doctor. That is to be expected as practice of defensive medicine and uncertainty go hand in hand.[19] As doctors gain more experience and become more confident in their decisions, defensive medicine decreases.

Another factor worth noting is gender. Males were more likely to practice defensive medicine than females. We don't know what the exact cause is, as we couldn't find any published literature regarding this topic.

Experiencing malpractice litigations and witnessing colleagues getting sued also play important roles. Having the prospect of a lawsuit looming influences doctors' decisions, making them uncertain and concerned about how they could protect themselves in the case of litigation.

An important thing to note is that almost half of the cases drop before reaching the court, and of the six cases that did reach the court in our study, only one ended ruling in favor of the plaintiff.

This supports the idea that most of these cases were without merit in the first place.

Nevertheless, the legal costs do add up, and the reputation of the doctor might be harmed by these cases, to say nothing of the psychological damage. That could explain why, in our study, despite most of the cases being won by the defendants, the doctors still practiced defensive medicine and tried to prevent these cases in the first place or settled them out of court.

This high percentage of defensive medicine practice might have a variety of implications. We believe one of them is worth mentioning and that is the rising rate of Cesarean Section. In Egypt the rate of Caesarean section reached 52% in 2014.[20] We surmise that one of the reasons for this phenomenon is the ever-present environment of liability. The practice of medicine can never be without uncertainty, and this environment of liability is all the catalyst needed to turn uncertainty into defensive behavior and influence doctors' decisions of the mode of delivery accordingly.[21]

Study Limitations

As there is no clear-cut line segregating appropriate and inappropriate practice, subjectivity towards medical practice drives the decision in a clinical setting.[3,22]

The sampling technique we used was convenience sampling, as emails of the included population were not available, and consequently we only handed the questionnaires to the participants that we were able to meet directly.

The response of physicians can be influenced by self-motives and desires that may not reflect reality, or by fear of criticism.

The study is limited to a single high-risk specialty which does not necessarily reflect all other specialties.

Conclusions

The practice of defensive medicine in Kasr Alainy OBGYN hospital is considerably high (81%) but it is in line with other countries. Ordering more investigations than indicated and avoiding risky procedures/interventions out of medico-legal concern are the most common forms of defensive medicine. High percentages of defensive medicine reflect doctors' decisions being influenced by medical liability. Nationwide, this practice has a significant economic cost. The lack of a medical law and the implications of its absence (doctors getting sued and tried by the criminal law, limitation of patient-doctor relationship) are significant contributors to the practice of defensive medicine, but there are also other factors including experience and gender (male). Another factor that may potentially affect the practice of defensive medicine is the aftermath of litigation including legal costs and the damage to the reputation and confidence of the doctor. Thus, efforts to reduce defensive medicine in Egypt should start with enacting a medical law.

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