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Medico legal aspects of Medical Malpractice living cases in Cairo and Giza governorates from 2014-2015

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Abstract

Introduction: Medical malpractice is all the behaviors and attitudes that result from unsuitable interaction of health professionals functioning within different disciplines, which might also affect the percentage of mortality within health authorities or specific societies.

Aim of the study: The objectives of the present study were to evaluate the medico-legal aspects of medical malpractice living cases in Cairo and Giza governorates. Also, the study aimed to understand the most frequent underlying causes of medical errors and how they happened. Besides, it aimed to know the outcome of medical malpractice living cases if these errors lead to permanent infirmity or completely cured without disabilities.

Subjects and Methods: The current retrospective descriptive observational study recruited the medical malpractice living cases in Cairo and Giza governorates. We used all the available records and reports of Forensic Medical Authority from the 1st of Jan 2014- to the 1st of Jan 2015. That included 99 subjects with alleged medical malpractice living cases. The inclusion and exclusion criteria were determined according to the results of forensic examinations.

Results: The findings showed a difference in the age of alleged medical malpractice living cases. Participants with ages less than a year represented 4% of the living cases, while 14.1% had ages ranging from 1-20 years. Cases with 20-40 and 40-60 years old represented 48.5% and 20.2%, respectively, while 13.1% were older cases (>60 years old). Most of the cases were females. The most affected age group was 20-40 years old, while the least affected group was less than a year old. Regarding the medical specialties, general surgery had the most alleged living cases.

Conclusion: Tightening control over the various health institutions, to ensure that any case of medical negligence is monitored, is required. Also, the penalties must be increased for all health practitioners accused of cases of willful medical negligence.

Keywords: Medical negligence; medical expenses; permanent infirmity; adverse drug events.

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1. Introduction

Providing a medical service is a complex process dependent on the successful interaction of health professionals functioning within different disciplines [1]. The specter of medical error is prevalent but seemed more evident over recent years.

During the past decade, healthcare quality and patient safety have emerged as high-priority targets for improvement [2].

Negligence in the medical profession may lead to mild or severe injuries, which sometimes might cause death [3].

Injuries caused by medical interventions received widespread interest, worldwide. That probably is due to damages that may occur as direct damages, such as lost earnings, medical expenses, and future medical and rehabilitation costs, or indirect

damages, such as pain and emotional

2. Subjects and methods

2.1. Subjects

The current retrospective descriptive observational study targeted the alleged medical malpractice living cases from the available records and reports of the Forensic Medical Authority in Cairo & Giza governorates. It started from (Jan 2014- Jan 2015) and included 99 living cases with alleged medical malpractice.

Permission to implement the study was obtained by an official letter introduced to the Head and the chief medical officer in the department of forensic medicine, the Forensic Medical Authority, Cairo governorate.

2.2. Methods

The data was obtained from all living cases suffered from alleged medical malpractice. The data were recorded and reported in the Forensic Medical Authority, Cairo governorate, in 2014-2015. The obtained data screened the following:

- The personal data of alleged cases (age, sex, marital state).
- Geographical distribution of authorized prosecutions.
- Place of neglection (public, private, insurance, university hospitals).
- Different medical specialties
- Scientific degrees of accused doctors (consultants, specialists, residents, diploma, GP)
- Results of forensic examination (positive, negative).

distress, and many others [4].

- The positive and negative cases were determined according to the results of forensic examinations.
- The incidence of permanent infirmity.
- Infirmities in different specialties.
- Types of medical errors were classified into five groups:
 1. Group 1: negligence & omitting the necessary treatment.
 2. Group 2: complication at and/or after surgery.
 3. Group 3: wrong treatment.
 4. Group 4: mistake in care.
 5. Group 5: adverse drug events, medication errors [5].

Data were computerized using origin 5 V.15 (<https://www.originlab.com/origin>). All information was verified for completeness and logical consistency and translated into English to facilitate data manipulation. Simple statistics such as frequency, percentage, arithmetic mean, and standard deviation were used.

2.3. Statistical analysis

Analysis of data was performed using SPSS v. 25 (Statistical Package for Social science) for Windows. Description of qualitative variables was in the form of numbers (No.) and percentage (%). Comparison between categorical data was done using the Chi-square to test the statistical difference between the two

groups. The significance of the results was

assessed at *P-value* < 0.05.

3. Results

The current retrospective study was conducted on data files from the department of forensic medicine, ministry of justice in Cairo to study medical malpractice living cases in Cairo and Giza governorates from 2014-2015. The total number of the studied living cases were 99.

The difference in the age of alleged medical malpractice living cases. cases less than a year represented (4%) of living studied cases more than a year to 2nd decade were (14.1%), from 2nd – 4th decade was (48.5%), 4th to 6th decade were (20.2%) and more than 6th decade were (13.1%) of studied living cases (Table 1).

Table 1: Age variations of living studied cases.

Age group	Frequency (n=99)
<1 year	4 (4%)
A year- 2 nd decades	14 (14.1%)
2 nd -4 th decades	48 (48.5%)
4 th -6 th decades	20 (20.2%)
>6 th decades	13 (13.1%)

The most medical specialties, which had alleged cases in the study, were general surgery (24.2%), ophthalmology (16.2%),

obstetrics/gynecology (16.2%), orthopedics (15.2%), pediatrics/neonatology (5.1%), urology (5.1%), anesthesia (4%), and Emergency (ER) (4%) (Table 2).

Table 2: Variations of different medical specialties on the studied living cases.

Medical Specialty	Frequency (n=99)
Cardiology	3 (3%)
Anaesthesia	4 (4%)
ENT	3 (3%)
Neurosurgery	3 (3%)
Urology	5 (5%)
General surgery	24 (24%)
Paediatrics & neonatology	5 (5%)

Orthopaedics	15 (15%)
Ophthalmology	16 (16%)
Obstetrics & gynaecology	16 (16%)
ER	4 (4%)
Radiology	1 (1%)

The relation between the incidence of permanent infirmity and results of forensic examinations revealed that 33.3% of cases

with permanent infirmity were positive, while 9.5% of cases without permanent infirmity were positive, as well.

Table 3: Relation between the incidence of permanent infirmity& results of forensic examinations.

Infirmity	Positive (n=23)	Negative (n=76)	P-value
Permanent infirmity	19 (33.3%)	38 (66.7%)	0.006*
No Permanent infirmity	4 (9.5%)	38 (90.5%)	

*Significant at $P < 0.05$.

4. Discussion

The current retrospective study aimed to determine the medical malpractice living cases in Cairo and Giza governorates during 2014-2015.

The alleged medical malpractice cases were obtained from documents and reports at Forensic Medical Authority in Cairo governorate. Living cases were classified according to age, sex, marital status, the

geographical distribution of authorized prosecutions, place of neglect (public, private, insurance, university hospitals), different medical specialties (Cardiology, anesthesia, ENT, neurosurgery, urology, general Surgery, pediatrics/neonatology, orthopedics, ophthalmology, obstetrics/gynecology, radiology, and ER), scientific degrees of accused doctors

(Consultants, specialists, accused all department, general practitioners, residents), Results of forensic examinations (Positive, negative), the incidence of permanent infirmity (no permanent infirmity, permanent infirmity), and infirmities in different specialties (Neurological, gynecological, nephrology, cosmetic, bone affection, ophthalmic, renal, GIT).

The results of studying living cases in which the majority of them were in the middle age groups (2-4th decade 48.5%, 4-6th decade 20.20%) agree with a retrospective study published in 2014 from Cairo and Giza regions [6], noted that the majority of patients were younger than 45 years while neonates were 14.5% of all cases. Most of the cases were in the middle age group because the fertile females increase the number then followed by the 6th decade age group, which is more vulnerable to medical complications.

Of the alleged living cases, (44.40%) of them were males, and (55.60%) were females. Most of the cases were females because obstetric cases increase their number. These results agree with a study from Tanta university [4], which reported that females represented (64.7 %) of cases and males were (35.29 %). The findings disagreed with another study from Japan [7], which demonstrated that 51.5% were males and 48.5% were females.

Regarding marital status, married cases were 59.6% and single cases were 40.4%. That might be due to the increased litigation in pregnant women and obstetric cases. Regarding the authorized prosecution variations of the studied living cases, Cairo had the most frequent cases (51.5%),

followed by Giza (47.5%). That coincides with a paper published in the Egyptian Journal of Forensic Sciences [8], which said that the Cairo governorate had the most frequent cases, followed by Giza.

Regarding the place of reported medical errors, private hospitals had the most cases (72.73%), followed by public hospitals (17.17%). That might suggest that private hospitals need more restrictions and monitoring.

These results disagreed with a descriptive study from Turkey [9], which noted that State hospitals were the first 42.4%, followed by social security hospitals (18.5%) and private hospitals (12.0%). Also, the results disagreed with another study from Turkey [10], which noted that most cases were reported in state hospitals, followed by private hospitals and university hospitals.

Regarding the qualifications of the accused physicians in living cases, consultants had the most accusations in the study with a percentage (39.4%), followed by specialists (30.3%). Some cases accused the whole medical department of all its members, and that represented 17.2% of all cases. Resident doctors represented (11.1%) of cases. Most of the cases were with consultants because most patients, in general, seek consultant doctors because of their experience.

These results coincide with the study from Tanta university [4], which reported that (47.1 %) of defendant physicians were consultants, (35.3%) were specialists, (11.8%) of the whole medical team was accused, and (5.9 %) were residents.

Regarding the different medical specialties of the studied living cases, the general surgery specialty had the most medical errors at 24.2%, then ophthalmology at 16.2 %, obstetrics/gynecology at 16.2%, and orthopedics at 15.2 %. These results disagree with a study in Saudi Arabia that noted that obstetrics had the most cases at 27%, followed by general surgery and sub-specialties represented 17% each, internal medicine at 13%, and pediatrics contributed at 10% of the claims [11].

Regarding types of medical errors in living cases, negligence represented the most accusations (34.78%), followed by complications within surgical therapy (30.43%), then wrong therapy represented (17.39%), mistakes in care and medication errors (8.7%) for each. That means that doctors need to follow specific protocols and more practicing about medical errors and how to avoid them.

These results agree with a study from Germany [6], which reported that most accusations were due to negligence (48.5%) followed by complications within surgical therapy (33.1%), wrong therapy (17.2%), medication error, adverse event due to drug therapy (12.5%) and mistakes in care (7.2%).

Also, these results agree with the study from Wuhan, China [12], which reported that most accusations were due to negligence (50.5%) followed by complications within surgical therapy (18.6%)

These results disagree with the paper published in the Egyptian Journal of Forensic Sciences [8], which reported that

improper performance of surgical procedures was the most frequent cause (32.3%), followed by the inadequate postoperative follow-up (20%).

Regarding the incidence of permanent infirmity in the studied living cases, (57.6%) of them had different permanent infirmities and 42.4% had no permanent infirmities, which means that most of the cases had serious complications. These results disagree with the retrospective study from Germany [13], which noted that most of the cases had no permanent infirmity, and also disagree with a paper published in 2003 [14], which noted that (39%) of cases had permanent infirmity and 61% had no permanent infirmity.

Regarding permanent infirmities of different specialties in the studied living cases, neurological and ophthalmological infirmities were the most types (26.32%) for each. Both specialties have the highest percentages of permanent infirmities among living studied cases because they are very sensitive specialties that work on very sensitive organs and systems in which any medical mistake may lead to permanent infirmities more than other specialties.

Regarding the relation between the age of living cases and results of forensic examination, the most positive cases were in the age group from 1 year to 2nd decade (35.7%). These results disagree with the study from Wuhan, China [12], which demonstrated that the most positive cases were in the age group 3rd to 5th decade.

Regarding the relationship between different specialties and the results of forensic examinations. All cases of Emergency specialty were positive (100%),

followed by ENT (66.7%) and radiology (50%). These results disagree with the retrospective study from Germany [13], which noted that psychiatry had the most positive cases and the medical specialty which had the most negative cases was pediatrics (11.5%), and also disagree with the study from Wuhan, China [12], noted that general practice had the most positive cases followed by surgery and internal medicine.

Regarding the relation between the incidence of permanent infirmity and results of forensic examinations, living studied cases that ended with permanent infirmity, (33.3%) of them approved to be positive, and cases that not ended with permanent infirmity (9.5%) were positive. These results coincide with the study from Tanta university [4], which reported that cases

with permanent infirmity (5.88%) of them were positive.

Conclusion

A significant number of the studied living cases are females. The most affected age group is the 2nd to 4th decade while the least affected age group is less than 1 year. Private hospitals had the most medical malpractice living cases. Regarding the medical specialties, general surgery had the most alleged living cases and most of the accused doctors were consultants. Tightening control over the various health institutions, to ensure that any case of medical negligence is monitored, is required. Also, the penalties must be increased for all health practitioners accused of cases of willful medical negligence.

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