

INCIDENCE AND AWARENESS ABOUT MEDICAL ERRORS IN A SAMPLE OF EGYPTIAN PHYSICIANS

Karima Mokhtar Mohamed Ahamed¹, Nermine Nabil fayed¹, Ehsan Akram Deghidy² and Nada Elsayed¹

¹Department of Forensic Medicine and Clinical Toxicology, Faculty of Medicine, Cairo University, Kasr Alainy Street, Cairo, Egypt

²Department of Biomedical Informatics and Medical Statistics, Medical Research Institute, Alexandria University, Alexandria, Egypt

Corresponding author: Karima Mokhtar Mohamed

Tel.: +01002473054 (Karima.mokhtar@kasralainy.edu.eg)

Submit date: 07-03-2024

Revise date: 01-06-2024

Accept date: 07-06-2024

ABSTRACT

Background: Medical malpractice is a legal cause of action that arises when a doctor deviates from the accepted norm and results in a patient's decline or death. MEs continue to be a serious global concern in developing nations like Egypt, where resources are scarce, so more high-risk. Physicians must demonstrate real, compensable injuries to fulfill their ethical responsibility to provide care to their patients. Despite the rare data on ME in Egypt, continues to be a significant cause for worry. Maintaining a culture that strives to identify safety issues and put workable solutions in place rather than supporting a culture of blame, guilt, and punishment is one way to address the ME's problem. **Objective** The purpose of the current study is to identify ME cases among Egyptian physicians and assess their level of knowledge regarding MEs and the law. It also seeks to identify the specializations where ME is most frequently made. Analyzing the recurrence of ME and its primary causes is another crucial objective, followed by the development of effective preventative measures. **Methods:** To ensure diversity in specializations and cultural backgrounds, the authors created a questionnaire and sent it online to 200 Egyptian physicians from various areas and governorates in Egypt. **Results:** In this study, there were a total of 200 participants, consisting of 80 men and 120 women. The age groupings included those with the highest percentage (4.4%) over 40 years old, 61.3% between 30 and 40 years old, and 34.4% between 24 and 30 years old. They were divided into three categories: internal medicine, surgery and its subspecialties, and paramedical with their many specializations. The younger age groups committed ME at higher rates than the older age group, Men had a larger percentage of ME than women. Among the other specializations, internal medicine and paramedical specialties had the lowest rate of MEs, followed by surgery and its branches. **Conclusion:** Age, sex, and medical specializations of physicians were related to the frequency of ME. In order to manage ME, medical education be expanded; and the most experienced doctor should be present.

KEYWORDS: medical errors, paramedical, internal medicine, surgery, and Egyptian physician.

INTRODUCTION

Medical malpractice refers to deviations from acceptable medical standards resulting in harm or injury. (Kwon et al., 2017).

All healthcare professionals must comply with established standards of care, clinical guidelines, and protocols. (Al-Jabri et al., 2021)

There has been a consistent rise in the average number of medical malpractice claims made against medical practitioners, healthcare facilities, and general hospitals. The reasons for this increase include the medical field's ongoing renewal as a result of newly found technologies, the quick distribution of these advancements, public education and knowledge growth, and media coverage (Mwaheb, 2016).

All physicians, including primary care physicians, are prone to medical errors, making patient safety a major concern. Improving patient safety can enhance the overall healthcare outcomes in all settings including primary healthcare (Alnasser et al., 2020)

Egypt now has a national database of medication errors (MEs) gathered through an online reporting system called NO HARME, which falls under the Egyptian Drug Authority. Although the data is voluntarily reported, we have analyzed the database and found it to be useful for researchers and decision-makers in the Egyptian health system. The database can help assess the ME problem and identify its root causes. (Shehata et al., 2016).

According to a recent study, medical errors were more likely to be reported by chief physicians, as well as those who experienced workplace verbal aggression and intense work stress, and those who felt that their department lacked enough physicians. The study also found that medical errors were significantly associated with reduced self-efficacy and bad mood. The multivariable logistic regression analysis showed that older age and female sex were linked to a lower likelihood of self-reported medical errors. (Yan et al., 2023).

It has been found that older physicians and those who work with more experienced doctors have a higher risk of committing medical errors. This suggests that factors such as job stress, physical health, and work environment can significantly contribute to medical errors among physicians. If a physician uses an AI-based decision support tool that results in a medical error, they may be held legally responsible. However, younger doctors with less experience, as well as medical students, believe that both the manufacturer and the doctor should be held liable for medical errors in such cases (AlZaabi et al., 2023).

Medical errors were more common among doctors with higher educational attainment, those employed in secondary or tertiary hospitals, chief physicians or doctor-in-charge roles, and

departments reporting a physician shortage. Medical error reporting was more common among doctors with fair or poor physical health and those who experienced more verbal aggressiveness at work. Furthermore, the likelihood that a physician would have made a self-reported error in the preceding three months rose by 12% for each point that the over-commitment score increased (Yan et al., 2023).

AIM OF THE RESEARCH:

The current research aims to detect the cases of medical errors among a sample of Egyptian physicians and measure the awareness about medical errors and law among them, Also to detect the most common specialties in which medical errors occur. Another important goal is to explore the recurrence of medical errors and the most important causes of them, and finally setting successful strategies to avoid the recurrence of these practices.

MATERIALS & METHODS:

A questionnaire was designed by the authors in 2024 as shown in Table 1 then distributed online through different social media (Face book & whats app) to 200 Egyptian physicians from different fields and different governorates in Egypt to ensure variety in specialties and cultures.

Table 1: Questionnaire

| S. no. | Questions |
|------------|--|
| Question 1 | Do you know anything about penalties for a doctor who commits a medical error? |
| Question 2 | Have you ever made mistakes in your profession? |
| Question 3 | How often? |
| Question 4 | The reason for the error |
| Question 5 | Do you know the difference between expected complications and actual errors caused by doctors? |
| Question 6 | How can medical errors be controlled from your point of view? |
| Question 7 | What are the most common mistakes you notice from colleagues? |

Inclusion criteria;

- Egyptian doctors only in any governance of Egypt.

- Governmental hospitals.
 - Resident or had master or PHD degree.
- Exclusion criteria;**

- Non-Egyptian doctors.
- Private hospitals.
- Medical students.

Sample size calculation;

Using the NCSS and PASS program (Hintze, 2000). A sample size of 160 physicians is needed to detect awareness about medical errors in a sample of Egyptian physicians, with a precision 5% assuming the prevalence is (86.9%), according to a previous study (Mansour et al., 2020) at 95% confidence level with respect of non-response rate (25%) so the sample size was increased to 200 physicians.

Statistical Analysis

The collected data was wrangled, coded, and analyzed using the SPSS software (Armonk, NY: IBM Corp version 25.0). Categorical data were summarized by frequency and percentage (%). A Chi-square test was used to estimate the difference between the categorical variables. Statistical significance was considered when $p < 0.05$.

RESULT

This study was conducted on 200 Egyptian physicians which 80 were males (40%) and 120 were females (60%), with age groups ranging from 34.4% between (24-30 years), 61.3% between (30-40 years) and the least percentage (4.4%) more than 40 years. The majority of physician were from Cairo then followed by Upper Egypt and Giza in percentages {64.4%, 25.6% and 10% respectively}. **as shown in Table 2**

The Egyptian physicians were classified into three main categories: internal medicine, surgery (including its specialties), and paramedical (including their different specialties). {45%, 20% and 35% respectively}. **As shown in Table in 2**

Table 2: Sociodemographic characteristics of the studied sample

| Sociodemographic data | Frequency (%) |
|---------------------------|---------------|
| Sex | |
| Males | 80 (40) |
| Females | 120 (60) |
| Specialties | |
| Internal medicine | 90(45) |
| Surgery with its branches | 40(20) |
| Paramedical | 70(35) |

Table 3; Responses of Egyptian physicians on Questionnaire

| Questionnaire Questions |
|---|
| Q1; Do you know anything about penalties for a doctor w a medical error? |
| <ul style="list-style-type: none"> • Yes • No |
| Q2; Have you ever made mistakes in your profession? |
| <ul style="list-style-type: none"> • Yes • No • Maybe |
| Q3; How often? |
| <ul style="list-style-type: none"> • Once • >once |
| Q4; The reason for the error from your point of view |
| <ul style="list-style-type: none"> • Ignorance & Neglecting • Lack of capabilities & work pressure • Lack of experience & lack of training • Poor communication with colleagues at work and for taking responsibility for some of them • Insincerity or patient cooperation and lack of capabilities • Haste • Amnesia • Nurses |
| Q5; Do you know the difference between expected complications and actual errors caused by doctors? |
| <ul style="list-style-type: none"> • Yes • No • Maybe |
| Q6; How can medical errors be controlled from your point of view? |
| <ul style="list-style-type: none"> • Increase training of physician • Presence of the oldest and most experienced physician • Increase oversight • All of these |
| Q7; What are the most common mistakes you notice from colleagues? |
| <ul style="list-style-type: none"> • lack of experience & lack of training • Ignorance and not reading • All of these |

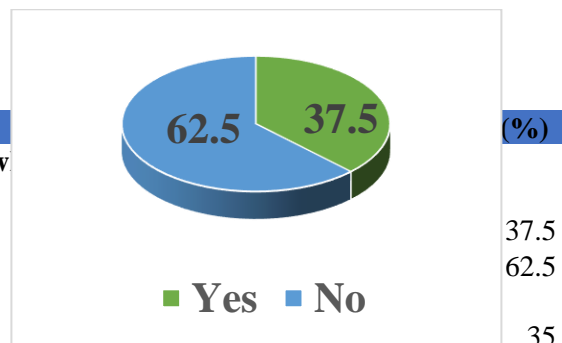


Fig. 1: Question 1– Do you know anything about penalties for a doctor who commits a medical error?

About question 2 “Have you ever made mistakes in your profession” about 25% were not sure about it while 35% said “Yes”, and 40% didn’t make mistakes.

When we asking about the number of these mistakes 19% of physician made mistakes once time while 16% made it more than once. By asking about the difference between expected complications and actual errors caused by doctors, 75% knew this information, 10% said “No” and 15% said “Maybe”.

In question 4 by asking about the reason for the error, 90 doctors thought that ignorance and neglect were the main cause followed by (Lack of capabilities & work pressure) & (Lack of experience & lack of training) in percentage of (40%&30% respectively).

In question 6 by asking about their suggestions “How medical errors can be controlled?” Majority 90(45%) suggested increasing training of physician, 20(10%) suggested presence of the oldest and most experienced physician while 20(10%) recommended Increase oversight and 70(35%) suggested all these ideas, (Fig 2).

[Table 3] shows that upon asking the Egyptian physician if they know anything about penalties for a doctor who commits a medical error, 37.5% (no= 75) of doctors said yes while 62.5% had no idea, (Fig 1).

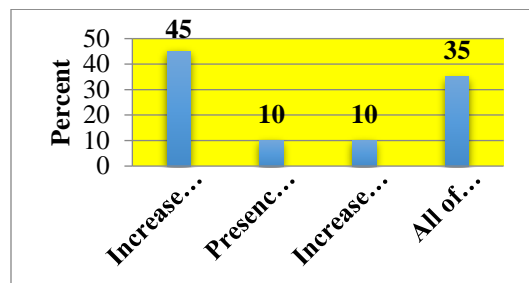


Figure 2: Question 6– How can medical errors be controlled from your point of view?

In question 7 asking about the most common mistakes you notice from colleagues; 45% of doctors answered that “lack of experience & lack of training” is the main cause, 20% of doctors see that “ignorance and not reading” and 35% answer all of these causes (Fig 3).

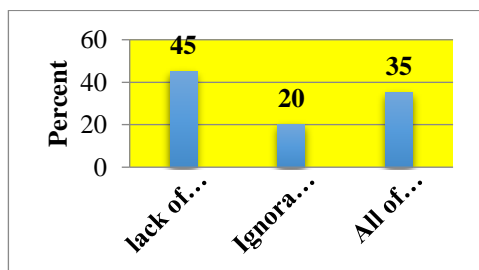


Figure 3: Question 7– What are the most common mistakes you notice from colleagues?

[Table 4 & Table 5] showed an association between the occurrence of medical error and with number (age, sex, and specialties of doctors), the younger age committed medical errors [24-30] & [30 -40] more than [>40] in percentage [27.1%, 70% and 2.9% respectively], (P<.001*). The sex had a relation with the occurrence of medical errors as males had a higher percentage than females {57.1% v 42.9%} while in uncertainty in doing medical errors, females had a higher percentage than males {60% v 40% },(P<.001*).

Table 4; Relation between age, sex, and specialties of doctors with occurrence of medical error

| | Have you ever made mistakes in your profession? | | | | | | Significance test |
|--------------------|---|------|------------|------|----------------|----|----------------------|
| | Yes (No=70) | | No (No=80) | | May be (No=50) | | |
| Age | No | % | N | % | No | % | |
| 24-30 | 19 | 27.1 | 30 | 37.5 | 18 | 36 | X ² =20.4 |
| 30 -40 | 49 | 70 | 50 | 62.5 | 24 | 48 | P<.001* |
| >40 | 2 | 2.9 | 0 | 0.0 | 8 | 16 | |
| Sex | | | | | | | X ² =16, |
| Male | 40 | 57.1 | 20 | 25 | 20 | 40 | P<.001* |
| Female | 30 | 42.9 | 60 | 75 | 30 | 60 | |
| Specialties | | | | | | | |
| IM | 25 | 35.7 | 40 | 50 | 25 | 50 | X ² =66. |
| Surgery* | 35 | 50.0 | 0 | 0 | 5 | 10 | 14, |
| Param ed. * | 10 | 14.3 | 40 | 50 | 20 | 40 | P<.001* |

X²; Pearson Chi-Square test
 *, Significant (p<0.05)
 IM (internal medicine)
 Surgery*(surgery and its branches)
 Paramed. * (paramedical)

Surgery with its specialties recorded medical error highest than other specialties [Internal medicine & paramedical specialties], [50%, 35.7% and 14.3% respectively], (P<.001*).

Only age had significant relation with the number of errors as doctors within age (24-30) committed error more than once time more than other age categories [[30 -40] & >40] [(68.8%, 15.6% and 15.6% respectively), P=.001*.

Table 5; Relation between age, sex and specialities of doctors with numbers of medical error

| | How often? | | | | Test of significance (p) |
|---------------------------|--------------|------|---------------|------|-------------------------------|
| | Once (No=38) | | >once (No=32) | | |
| Age | N | % | No | % | |
| 24-30 | 13 | 34.2 | 22 | 68.8 | X ² =13.1, P=.001* |
| 30 -40 | 22 | 57.9 | 5 | 15.6 | |
| >40 | 3 | 7.9 | 5 | 15.6 | |
| Sex | | | | | |
| Male | 14 | 36.8 | 16 | 50.0 | X ² =.75, P=.38 |
| Female | 24 | 63.2 | 16 | 50.0 | |
| Specialties | | | | | |
| Internal medicine | 18 | 47.4 | 20 | 62.5 | X ² =1.67, P=.43 |
| Surgery with its branches | 9 | 23.7 | 6 | 18.8 | |
| Paramedical | 11 | 28.9 | 6 | 18.8 | |

X²; Pearson Chi-Square test

*; Significant (p<0.05)

DISCUSSION

Patients' claims of medical malpractice are one of the problems that doctors and other healthcare professionals may run into when providing care. Around the world, 7 million cases of medical negligence are reported each year; this number emphasizes how serious the issue is. Medical professionals and staff members are required to acknowledge their medical malpractice and the appropriate reporting procedures (Song et al., 2016).

Medical errors” are difficult to scientifically measure. Lack of it has been difficult to analyze, synthesize, and evaluate data related to medical errors due to the absence of standardized nomenclature and overlapping definitions. There are two primary categories of errors:

1. Errors of omission happen when something that should have been done is not done. For instance, neglecting to fasten a patient into a wheelchair or failing to secure a gurney before transferring a patient.

2. Errors of commission occur when the wrong action is taken. Administering a medication to a patient with a known allergy or failing to label a laboratory sample that is later attributed to the wrong patient are examples of this type of error. (Rodziewicz & Hipskind,2020)

Our study population was 200 physicians who were recruited to detect Incidence and awareness about medical errors in a sample of Egyptian physicians, of the investigated 200 Egyptian physicians Our results suggested that physician which 80 were males (40%) and 120 were females (60%), with age groups ranging from 34.4% between (24-30 years), 61.3% between (30-40 years) and the least percentage (4.4%) more than 40 years. The majority of physicians are from Cairo then followed by Upper Egypt and Giza in percentages {64.4%, 25.6%, and 10% respectively}.

According to Soroosh et al. (2020), out of the 1537 people who were studied, 741 (47.10%) were men and 832 (52.89%) were women, with a mean age of 32.3±3.4 years. Of the total participants, 1448 (92.05%) were unwilling to tell the patient's relatives about medical misconduct, while 125 (7.94%) tended to do so if the patient passed away. As a result, of the people in the former group, 84 (67.2%) were female and 41 (32.8%) were male. The age and educational attainment of the research subjects determines the presentation of pertinent data.

In our study upon asking the Egyptian physicians if they knew anything about penalties for a doctor who commits a medical error, 37.5% (no= 75) of doctors said yes while 62.5% had no idea

According to Garg et al., 2020 (66.4%) of respondents felt that they weren't trained properly during the residency period to face the

medicolegal issues and the associated risks and challenges

When we asked about the number of these mistakes "Have you ever made mistakes in your profession" about 25% were not sure about it while 35% said "Yes", and 40% didn't make mistakes.

When we asked about the number of these mistakes 19% of physicians made mistakes once time while 16% made it more than once. By asking about the difference between expected complications and actual errors caused by doctors, 75% knew this information, 10% said "No" and 15% said "Maybe".

Although the majority of study participants tended not to report their medical malpractice to patients and their families.

According to **Soroosh et al. (2020)**, out of 1573 participants, 52 (3.30%) said that they would disclose medical malpractice to patients and their families if there was no serious harm that would improve without treatment, and 1521 (96.69%) said that they would not. Of the 52 individuals who answered in the affirmative, 9 (17.30%) were men and 43 (82.69%) were women. Out of all the study participants, 171 (10.87%) and 1402 (89.12%) gave the same response to the question, "Would you disclose medical malpractice with serious untreatable harm to the patient, i.e., not immediately become aware of it?", respectively. Of the responders who said "yes," 122 (71.34%) were women and 49 (28.65%) were men. When asked if they would disclose medical malpractice if it caused treatable harm to a patient and the patient would suffer harm even if the malpractice was not disclosed, 25 people (1.58%) said, "We do not disclose the malpractice," and 1463 people (92.94%) said, "I disclose the malpractice, but do not mention that the harm was due to my malpractice;"

According to **Khatab et al. 2022** the majority of the physicians in this study (83.43 %) thought that the physician should tell the patient if any mistake happened & the patient should be compensated (86.25 %)

According to research done by **Haghshenas et al.,(2012)** healthcare facilities connected to the

Social Security Agency had the fewest complaints and malpractices. The free services offered to the covered population may be the cause of this.

Our study revealed that upon asking about their suggestions "How can medical errors be controlled?" The majority 90(45%) suggested increasing the training of the physicians, 20(10%) suggested the presence of the oldest and most experienced physician while 20 (10%) recommended Increase oversight and 70(35%) suggested all these ideas, and by asking about the most common mistakes you notice from colleagues; 45% of doctors answered "lack of experience & lack of training" is the main cause, 20% of doctors see that "ignorance and not reading" and 35% answer all of these causes.

El Sayed et al., (2021), in their study in Sohag governorate, found that (42.7%) of the participants, answered that directing risky procedures to qualified hospitals will prevent errors. (51.3%) of the respondents said that refusing or referring difficult cases would save the patients and doctors, (34.3%) need to give physicians more time to communicate with patients, (12.3%) of the participants stated that an increased number of nurses and assistant staff would decrease the occurrence of errors, only (2%) said that counting surgical items used during any invasive procedure will prevent recurrence of errors. From all these, we can conclude that the majority thought that malpractice is preventable.

Also, Yassa and Peter (2018) conducted a study in the Assiut governorate to determine the effectiveness of hospital management systems in reducing the risk of malpractice. According to the study, 39.1% of doctors recommended that disclosure policies be integrated into quality improvement programs, while 29.5% encouraged hospitals to report serious medical errors to the monitoring agency. Additionally, 20% of doctors expressed the need for training on how to disclose medical errors, and 11.4% suggested that high-risk procedures should be performed in tertiary care hospitals.

In our study association between the occurrence of medical error and with number (age, sex, and specialties of doctors), the younger age committed medical errors [24-30] & [30 -40] more than [>40]in percentage [27.1%,70% and 2.9% respectively], ($P<.001^*$). The sex had a relation with the occurrence of medical errors as males had a higher percentage than females {57.1% v 42.9% }while in uncertainty in doing medical errors, females had a higher percentage than males {60% v 40% },($P<.001^*$).

Only age had a significant relation with the numbers of errors as doctors within the age (24-30) committed error more than once time more than other age categories [[30 -40] &>40] [(68.8%, 15.6%and 15.6% respectively), $P=.001^*$.

According to **AlZaabi et al., (2023)**, there was a significant and negative correlation between the participants' age and year of experience (p-value <0.05). Physicians who made the decision may be held legally responsible for any medical errors stemming from the AI-based decision support tool, according to reports from older and more experienced doctors. However, younger doctors with less experience as well as medical students stated that in cases like this, the doctor and the manufacturer ought to be held legally accountable.

According to **Yan et al. (2023)**, head physicians were more likely to report medical errors, and those who did so also claimed that the department lacked enough physicians, that verbal hostility at work occurred, and that they were under a lot of stress at work. Medical errors were substantially linked to reduced self-efficacy and bad mood. Additionally, Older age and female sex were linked to a lower likelihood of self-reported medical errors in multivariable logistic regression. Medical errors were more common among doctors with higher educational attainment, those employed in secondary or tertiary hospitals, chief physicians or doctor-in-charge roles, and departments reporting a physician shortage

In our study surgery with its specialties recorded medical error highest than other

specialties [Internal medicine & paramedical specialties], [50%, 35.7% and 14.3% respectively], ($P<.001^*$).

Garg et al., 2020 found that most participants in their study (47.7%) felt that most malpractice claims documented are due to surgical negligence or wrong communication during the postoperative period

Mwaheb, (2016) found that (40%) of malpractice cases were due to surgery complications, followed by (23.6%) due to negligence, (21.8%) due to medication errors, and (14.5%) due to forgotten gauze

Medical facilities should create and put into place policies and processes for recognizing and handling medical errors. These should include methods for patient disclosure of major errors and continuous quality improvement systems. Trainees at all levels should receive explicit instructions from medical educators on how to recognize and avoid medical errors as well as how to respectfully and honestly discuss them with patients or their representatives (**Alchimbayeva et al., 2023**).

LIMITATION OF THE STUDY

The study mentioned has a few limitations. Although our reporting form was created to gather the most reliable information on each ME event, this study may be biased, much like any voluntarily reported data. There could be underreporting, inaccurate reporting, and personal selection of which errors warrant reporting. Moreover, the limited diversity of reporters' demographics may affect the generalizability of the results. Reports from different health professionals in various clinical settings may give more precise results. It's worth mentioning that voluntarily reported data can't be used to calculate actual ME rates in the community. Nevertheless, it's still beneficial for drawing trends and exploring areas that need improvement.

CONCLUSION AND RECOMMENDATIONS

From our study we conclude that in managing medical malpractice, prevent litigation, and provide professional norms and reliable references about medical-legal procedures, medical errors must be thoroughly analyzed. The medical system will probably always contain unintentional medical blunders. On the other hand, by emphasizing the health of both providers and patients, we might be able to strengthen providers' resilience and enhance patient care in environments that are safe, productive, and healthy.

Ethical consideration:

The study was conducted after obtaining the approval of the ethical committee – forensic medicine and clinical toxicology department - faculty of medicine Cairo University N-506-2023.

Disclosure statement

All authors declare that there are no financial and personal relationships with other people or organizations that could inappropriately influence their work.

REFERENCES

- Alchimbayeva, M., Glushkova, N., Mammadov, V., Aliyeva, S., Dyussupova, A., Dyussupov, A., & Tsigengagel, O. (2023). The intention to disclose medical errors among health professionals in Kazakhstan. *International Journal of Healthcare Management*, 1-7.
- Al-Jabri, F., Kvist, T., Sund, R., & Turunen, H. (2021). Quality of care and patient safety at healthcare institutions in Oman: quantitative study of the perspectives of patients and healthcare professionals. *BMC health services research*, 21, 1-8.
- Alnasser, A. A., Aldeeri, I. A., Aljamal, W. M., Sharahili, K. A., & Alturki, Y. A. (2020). Patients' knowledge, awareness, and attitude regarding patient safety at a teaching hospital, Riyadh, Saudi Arabia. *Journal of family medicine and primary care*, 9(10), 5236-5241.
- AlZaabi, A., AlMaskari, S., & AalAbdulsalam, A. (2023). Are physicians and medical students ready for artificial intelligence applications in healthcare?. *Digital Health*, 9, 20552076231152167.
- Davis, W., Kichena, S., Eckhoff, M. D., Childs, B. R., Rajani, R., Wells, M. E., & Kelly, S. P. (2023). Critical Review of Oncologic Medical Malpractice Claims Against Orthopaedic Surgeons. *JAAOS Global Research & Reviews*, 7(5), e22.
- El Sayed, R., Mohammed, N. and Radwan, R. (2021). Is It Better to Disclose or Conceal Medical Error When Occur? An Indicative Study from Sohag Governorate Physicians. *Ain Shams Journal of Forensic Medicine and Clinical Toxicology*, 37(2):116-127
- Garg, K., Sharma, R., Raheja, A., Tandon, V., Katiyar, V., Dash, C., Bhatnagar, R., Khullar, M.K., Raju, B., Nanda, A., and Kale, S.S. (2020). Perceptions of Indian neurosurgeons about medicolegal issues and malpractice suits. *Neurosurgical focus*, 49(5): E10
- Haghshenas, M. R., Vahidshahi, K., Amiri, A., Rezaee, M., Rahmani, N., Pourhossen, M., ... & Ziaei, S. (2012). Study the frequency of malpractice lawsuits referred to forensic medicine department and medical council, Sari, 2006-2011. *Journal of Mazandaran University of Medical Sciences*, 21(86), 253-260.
- Hintze, J(2001)NCSS and PASS, Number cruncher Statistical System, Kaysville, Utah WWW.NCSS.COM.
- Khattab, A. M. T., & Mohammed, H. (2022). KNOWLEDGE AND EXPERIENCES OF PHYSICIANS ABOUT MEDICAL MALPRACTICE. *The Egyptian Journal of*

Forensic Sciences and Applied Toxicology, 22(2), 139-149.

Kwon, J. W., Park, B. Y., Kang, S. R., & Hong, S. E. (2017). Analysis of the legal effect of settlement agreements prepared in medical litigation following plastic surgery in Korea. *Archives of Plastic Surgery*, 44(04), 283-292.

Mansour, R., Ammar, K., Al-Tabba, A., Arawi, T., Mansour, A., & Al-Hussaini, M. (2020). Disclosure of medical errors: physicians' knowledge, attitudes and practices (KAP) in an oncology center. *BMC medical ethics*, 21, 1-8.

Mwaheb, M. A. (2016). Screening of Alleged Medical Malpractice in Egypt (Fayoum Governorate). *J Forensic Res* 7: 341. doi: 10.4172/2157-7145.1000341 Page 2 of 4 *J Forensic Res*, an open access journal ISSN: 2157-7145 Volume 7• Issue 5• 1000341. *Neurologist*, 2(3.60), 3.

Rodziewicz, T. L., & Hipskind, J. E. (2020). Medical error prevention. *StatPearls. Treasure Island (FL): StatPearls Publishing.*

Shehata, Z. H. A., Sabri, N. A., & Elmelegy, A. A. (2016). Descriptive analysis of medication errors reported to the Egyptian national online reporting system during six months. *Journal of the American Medical Informatics Association*, 23(2), 366-374.

Song, D. J., Choi, J. W., Kim, K., Kim, M. S., & Moon, J. M. (2016). Quasi-experiment study on effectiveness evaluation of health communication strategies. *Journal of Korean medical science*, 31(7), 1027-1036.

Soroosh, D., Abadi, A., & Nematshahi, M. (2020). The rate and pattern of disclosing medical errors in Iranian physicians and healthcare staff. *International Journal of Medical Toxicology and Forensic Medicine*, 10(3), 28202.

Yan, S., Wang, J., Yin, X., Lv, C., Wu, J., Jiang, N & Gong, Y. (2023). Rates of perceived medical errors and its correlation

with work-related factors and personal distress among emergency physicians in China: a national cross-sectional study. *Emergency Medicine Journal*, 40(5), 320-325.

Yassa, H.A. and Peter, A.F. (2018): Medical Error Disclosure Can Rescue Malpractice Litigation. *Arab Journal of Forensic Sciences & Forensic Medicine*, 1(7): 859-868

الملخص العربي

مدى حدوث الأخطاء الطبية والوعي بها لدى عينة من الأطباء المصريين

كريمة مختار محمد احمد¹، نرمين نبيل فايق¹، احسان اكرم دغدي²، ندي السيد¹
¹ قسم الطب الشرعي والسموم الإكلينيكية، - كلية الطب القصر العيني - جامعة القاهرة، مصر

² قسم المعلوماتية الطبية الحيوية والاحصاء الطبي - معهد البحوث الطبية- جامعة الاسكندرية، مصر

سوء الممارسة الطبية هو سبب قانوني للعمل ينشأ عندما ينحرف الطبيب عن القاعدة المقبولة ويؤدي إلى تدهور المريض أو وفاته. لا تزال الخطأ الطبي في الشرق الأوسط تشكل مصدر قلق عالمي خطير في الدول النامية مثل مصر ، حيث الموارد شحيحة ، وبالتالي فهي أكثر خطورة.

يجب على الأطباء إثبات الإصابات الحقيقية القابلة للتعويض من أجل الوفاء بمسؤوليتهم الأخلاقية في تقديم الرعاية لمرضاهم. على الرغم من البيانات النادرة عن الخطأ الطبي في الشرق الأوسط في مصر ، لا تزال سببا كبيرا للقلق. إن الحفاظ على ثقافة تسعى جاهدة لتحديد قضايا السلامة ووضع حلول عملية بدلا من دعم ثقافة اللوم والشعور بالذنب والعقاب هي إحدى الطرق لمعالجة مشكلة الخطأ الطبي.

الهدف: الغرض من الدراسة الحالية هو تحديد حالات الخطأ الطبي بين الأطباء المصريين وتقييم مستوى معرفتهم فيما يتعلق بالخطأ الطبي والقانون. كما يسعى إلى تحديد التخصصات التي يتم فيها الخطأ الطبي بشكل متكرر. يعد تحليل تكرار الخطأ الطبي وأسبابه الأساسية هدفا حاسما آخر ، يليه تطوير تدابير وقائية فعالة. لأساليب: لضمان التنوع في التخصصات والخلفيات الثقافية، أنشأ المؤلفون استبياناً وأرسلوه إلكترونياً عبر البريد الإلكتروني إلى 200 طبيب مصري من مختلف المناطق والمحافظات في مصر.

النتائج: شارك 200 شخص في هذه الدراسة. 80 منهم رجال و 120 امرأة. شملت الفئات العمرية أولئك الذين لديهم أعلى نسبة لخطأ الطبي (4.4%) فوق 40 عاما ، و 61.3% بين 30 و 40 عاما ، و 34.4% بين 24 و 30 عاما. تم تقسيمهم إلى ثلاث فئات: الطب الباطني والجراحة وتخصصاتها الفرعية ، والمساعدين الطبيين بتخصصاتهم العديدة.

التزمت الفئات العمرية الأصغر سنا بمعدلات أعلى الخطأ الطبي من الفئة العمرية الأكبر سنا ، وكان لدى الرجال نسبة أكبر من النساء. من بين التخصصات الأخرى ، كان للطب الباطني والتخصصات الطبية المساعدة أدنى معدل من الخطأ الطبي ، تليها الجراحة وفروعها. الخلاصة: ارتبط العمر والجنس والتخصصات الطبية للأطباء بتكرار الخطأ الطبي. من أجل إدارة الخطأ الطبي ، يتم توسيع التعليم الطبي ؛ ويجب أن يكون الطبيب الأكثر خبرة حاضرا.